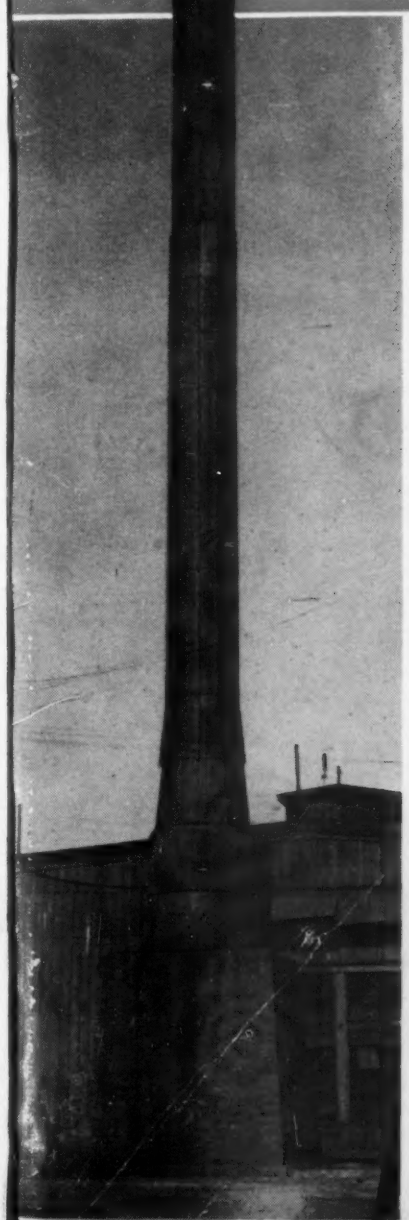
NOVEMBER 3, 1945

Railway Age

Founded in 1856

LIBRARY

DEC 19 1945



BYERS WROUGHT IRON protects this stack investment from going "up in smoke"

When this new stack was erected at a railroad shop in Western Pennsylvania, the engineers took steps to combat the corrosive attack that they knew could be expected. Byers Wrought Iron plate was used to fabricate the job.

The products of combustion that leave a fire-box have all the ingredients for trouble in capital letters. If any moisture is present anywhere on their journey, it will absorb carbon dioxide and sulfur compounds, to form aggressive acids that attack and destroy ordinary materials. Wrought iron has proven very successful in combatting this attack. Some of its most impressive records were made in installations where repairs were made with low-first-cost materials, permitting a direct comparison. In one such instance, the top courses of a 30-year old wrought iron stack were replaced with ordinary materials. In only 5 years another replacement was necessary! (Naturally, it was wrought iron.)

There is no mystery as to why wrought iron has done so well in stack service. The tiny fibers of glass-like silicate slag that are threaded through the body of high-purity iron halt and diffuse corrosive attack. The fibers also help anchor the initial protective film, which shields the underlying metal.

Because of the "Make it do" policy that the railroads have patriotically followed in recent years, you probably have a big back-log of deferred projects that may include a number of stacks. If you are not familiar with the unusual durability of wrought iron, you'll find it profitable to check on its record. You'll find wrought iron available in any required quantity, for any project.

Our bulletin, "Wrought Iron for Flue Gas Conductors and Coal Handling Equipment" digests a lot of useful information. May we send you a copy?

A. M. Byers Co., Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

BYERS

GENUINE WROUGHT IRON

TUBULAR AND HOT ROLLED PRODUCTS

ELECTRIC FURNACE ALLOY STEELS • OPEN HEARTH ALLOY STEELS

CARBON STEEL TUBULAR PRODUCTS

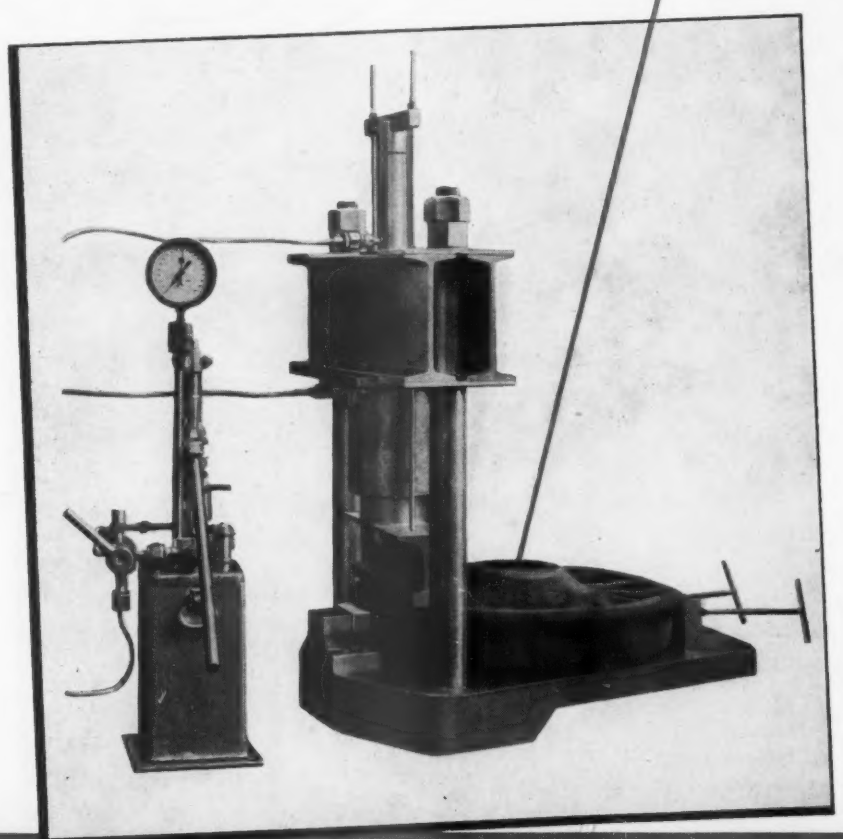
CORROSION COSTS YOU MORE THAN WROUGHT IRON

HYDRAULIC POWER
gives chilled wheels static tests

TF1
.R2

Here is a powerful new machine designed by the engineers of the Association of Manufacturers of Chilled Car Wheels for the specific purpose of testing wheel flanges. It is now testing the relative merits of existing and proposed designs . . . determining scientifically the degree to which wheels tested meet specifications. Static tests are given wheel flanges until the breakdown points are reached and recorded, the machine being capable of exerting hydraulic pressures up to 200,000 pounds. This recorded data gives engineers exact knowledge on which to base product improvements in chilled car wheels.

This hydraulic wheel testing machine and other new testing equipment now being developed provide evidence that AMCCW standards never stand still. Yet these new efforts are *added* efforts; they supplement rather than supplant the "7 Rigid Tests of Uniformity" which continue as a permanently-established part of the AMCCW Code of Practice.



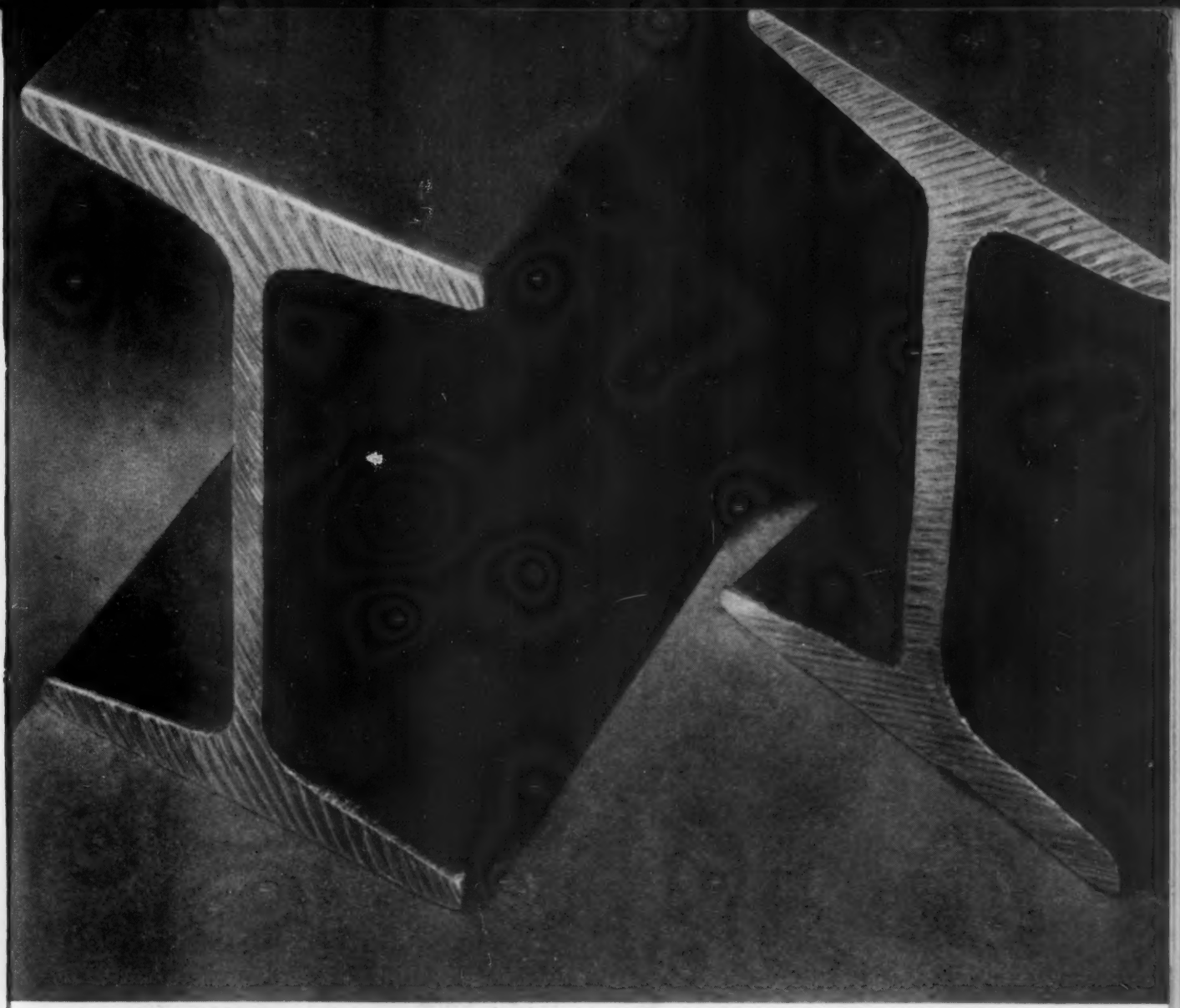
AMCCW

ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS

230 PARK AVENUE, NEW YORK 17, N. Y. • 445 NORTH SACRAMENTO BOULEVARD, CHICAGO 12, ILL.

Organized to Achieve: Uniform Specifications — Uniform Inspection — Uniform Product

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 119, No. 18.



Both Steel and Engineering Service Shaped to Your Purpose

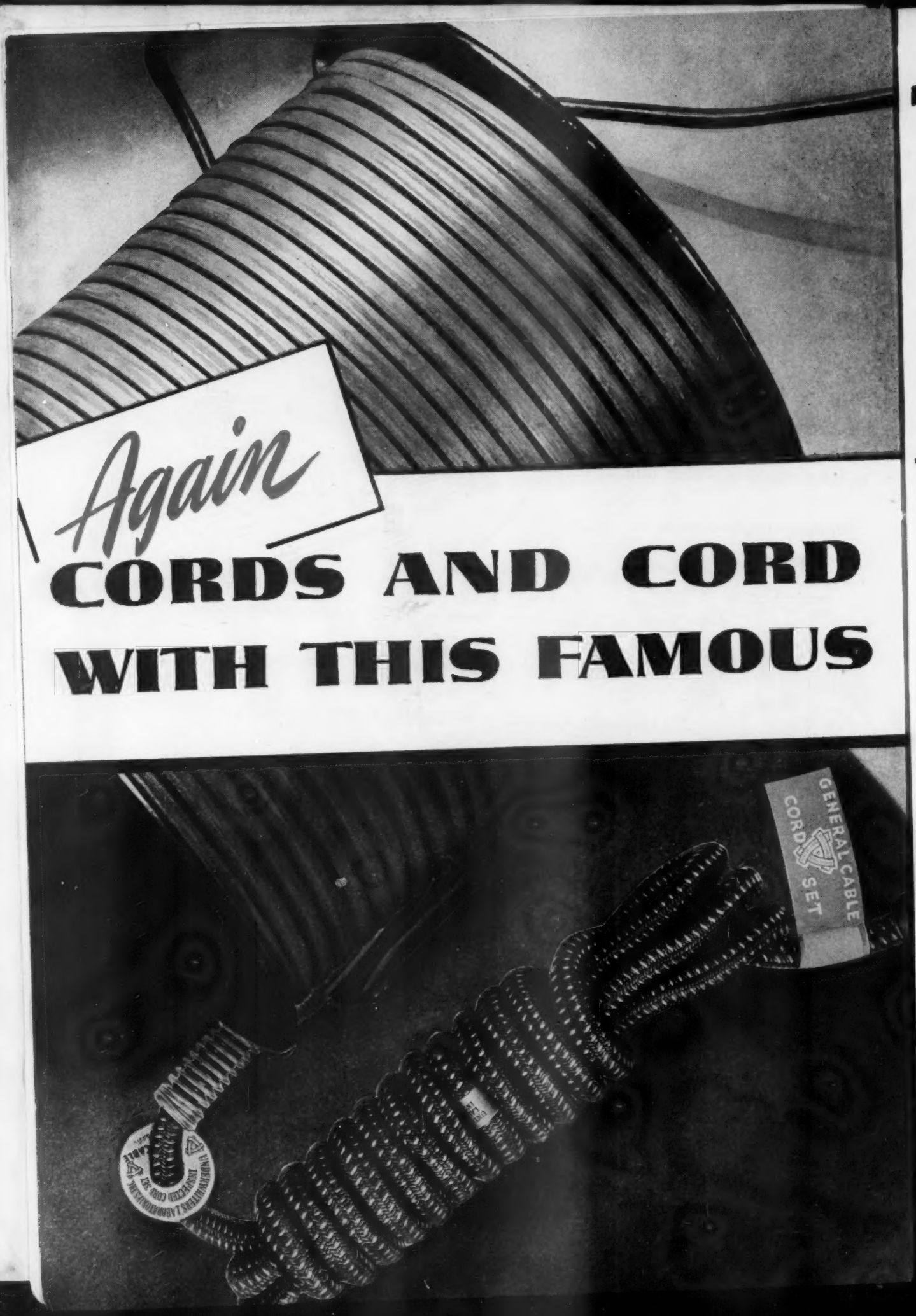
IN structural, as well as in all other rolled forms of steel, Inland engineers are aiding steel users with cost-reducing and time-saving suggestions. Whether the design is for a bridge, skyscraper, dam or mechanical equipment you can count on Inland to work closely with you from blueprint to finished job. This kind of mill service can make a big difference in production schedules and profit margins.

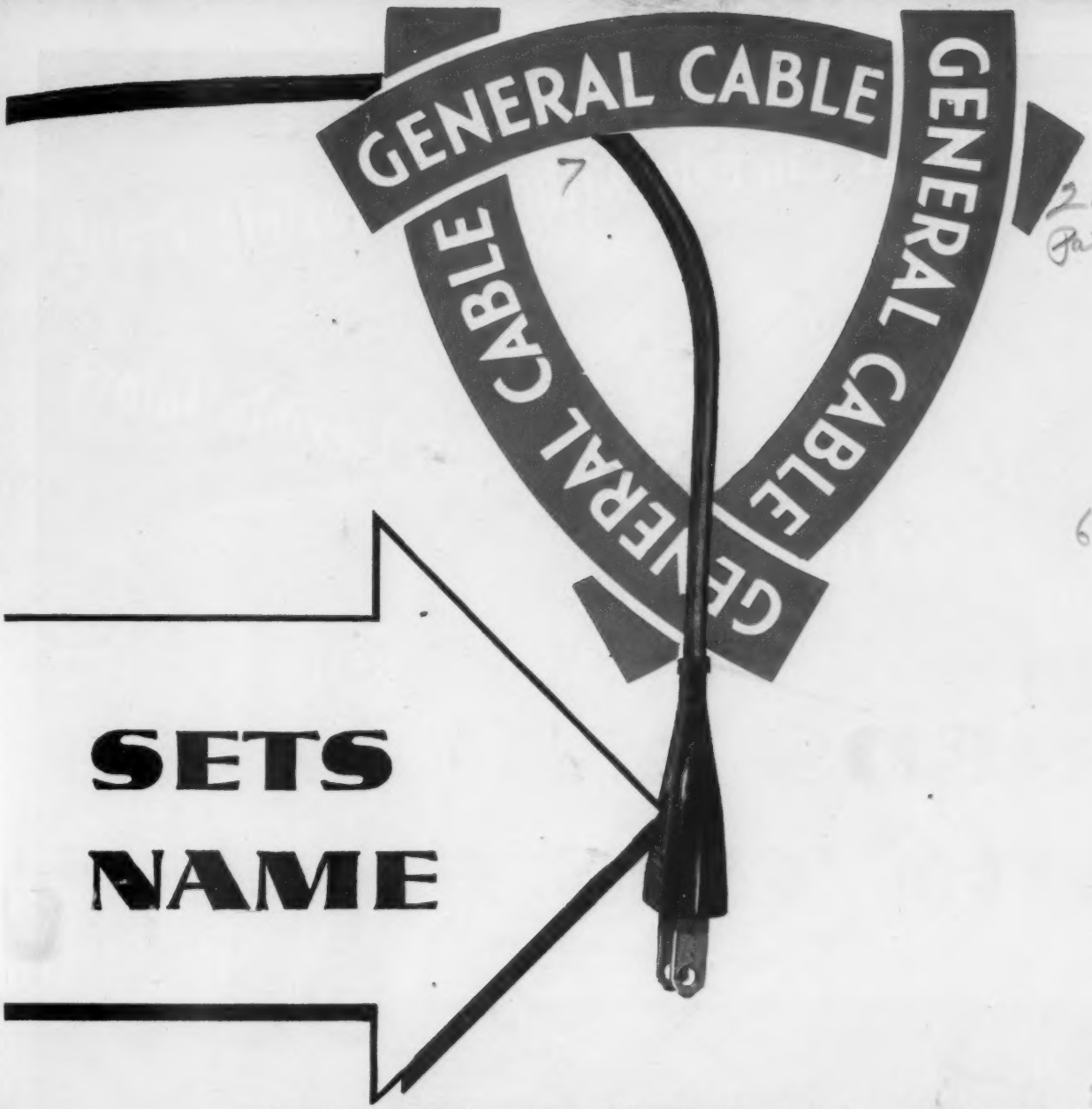
INLAND STEEL CO.

38 South Dearborn Street, CHICAGO 3, ILLINOIS

Sales Offices: CINCINNATI • DETROIT • INDIANAPOLIS • KANSAS CITY
MILWAUKEE • NEW YORK • ST. LOUIS • ST. PAUL

BARS · FLOOR PLATE · PILING · PLATES · RAILS · REINFORCING BARS · SHEETS · STRIP · STRUCTURALS · TIN PLATE · TRACK ACCESSORIES


Again
CORDS AND CORD
WITH THIS FAMOUS
GENERAL CABLE
CORD SET
UNDERWRITERS LABORATORIES INC.
INSPECTED CORD SET



7

238
Part 17

67

SETS NAME

This distinguished trade mark in the electrical wire and cable industry is once again the hallmark of quality on Cords and Cord Sets.

General Cable research and advanced engineering, plus expanded facilities and war-developed techniques have been adapted to the production of cords and sets that represent entirely new standards of quality and value.

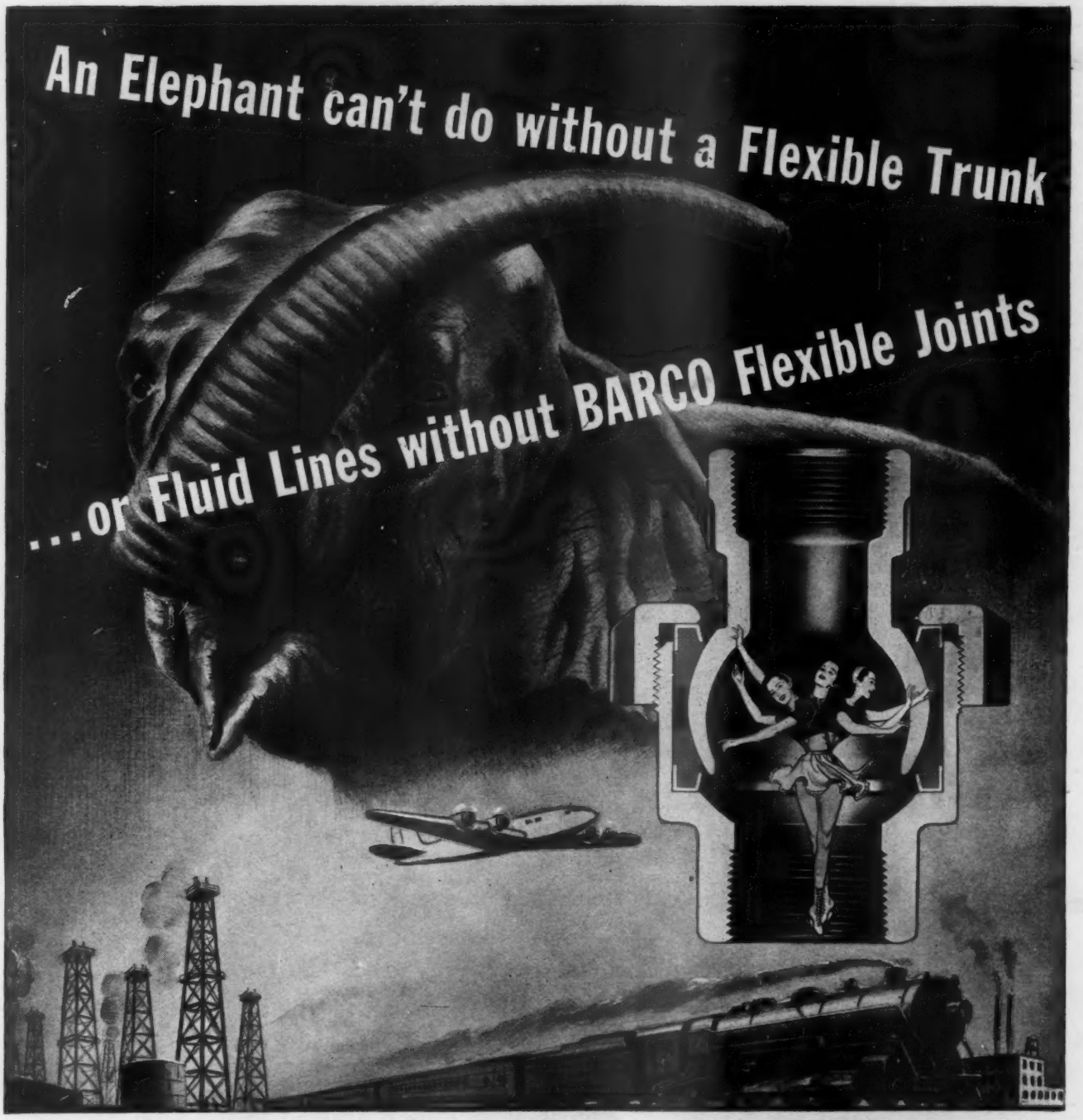
Whatever your requirements may be, General Cable is now ready to serve you with a complete line of quality cords and cord sets.

GENERAL CABLE
CORPORATION

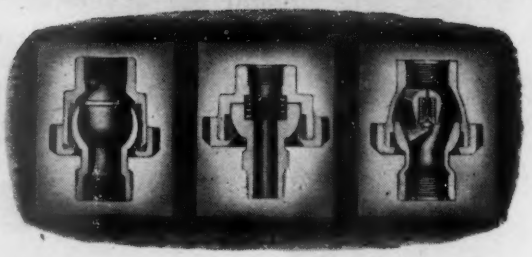
General Cable Corporation Sales Offices are located at **Atlanta, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Detroit, Houston, Kansas City (Mo.), Los Angeles, New York Philadelphia, Pittsburgh, Rome (N.Y.), St. Louis, San Francisco, Seattle, Washington (D. C.)**

An Elephant can't do without a Flexible Trunk

...or Fluid Lines without BARCO Flexible Joints



Nature provides flexibility in every living, moving thing. Because there is always movement—vibration, expansion, contraction—in any fluid-conveying system, Barco Flexible Joints are needed to provide responsive, compensating movement through every angle. For over 30 years they have been accepted as the standard for such protection against strain and shock. For complete engineering information, write to Barco Manufacturing Co., Not Inc., 1800 Winnemac Ave., Chicago 40, Illinois.

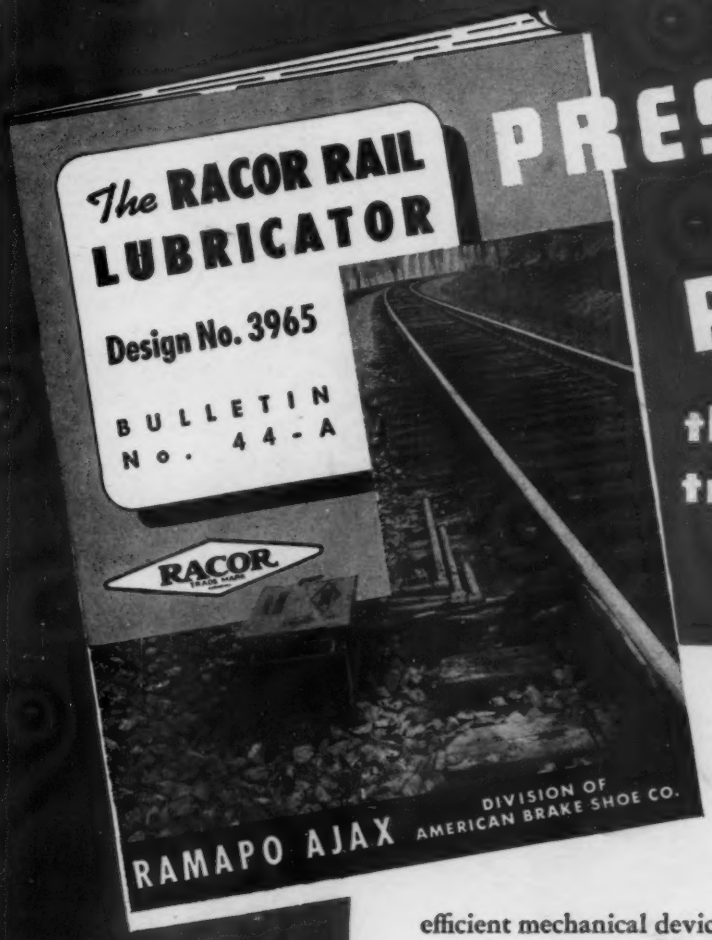


BARCO **FLEXIBLE JOINTS**

Not just a swivel joint...but a combination of a swivel and ball joint with rotary motion and responsive movement through every angle.

FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY

In Canada: The Holden Co., Ltd., Montreal, Canada "MOVE IN EVERY DIRECTION"



PRESCRIPTION for PROLONGING

the service life of track and wheels

Racor engineers have done more than develop and manufacture a Rail Lubricator, an efficient mechanical device for applying grease to passing wheel flanges. They have worked out practical recommendations for its most effective use in reducing the maintenance of track and in guarding locomotive tires and car wheels against wear. They have published this helpful data in booklet form.

Racor Bulletin No. 44-A discusses the selection of lubricator locations, describes its operation and gives instructions for installation, inspection and maintenance. Maintenance parts are pictured, numbered and listed. Write for this authoritative 48-page publication which tells the complete story of the Racor Rail Lubricator.

AMERICAN Brake Shoe COMPANY

RAMAPO AJAX DIVISION

332 South Michigan Avenue • Chicago 4, Illinois

HILLBURN, N. Y.
SUPERIOR, WISCONSIN
NIAGARA FALLS, N. Y.
LOS ANGELES, CALIFORNIA
NEW YORK, N. Y.
SEATTLE, WASHINGTON
EAST ST. LOUIS, ILL.
NIAGARA FALLS, ONTARIO
PUEBLO, COLO.

This red light says "STOP" to engine fires

IT'S the light on the Indicator Panel of the Kidde built-in fire-extinguishing system. A system first developed to guard tanks against engine fires—tested and proved in thousands of combat vehicles—and now adapted to protect buses with the same sureness and efficacy.

Flame Detectors in the engine compartment actuate the warning light of the Indicator Panel. Without leaving his seat, the driver pulls the release handle that sends the fire-extinguishing system into action.

Carbon dioxide, fast and sure . . . deadly to fire, harmless to engines . . . is immediately discharged into the engine compartment *by its own power*. Three-dimensional in action, carbon dioxide quickly permeates the threatened space, killing the flames *in a matter of seconds*. Fire damage and operating delays are cut to a minimum.

Kidde systems are easily installed in old or new buses, to protect vertical or horizontal gasoline or Diesel engines.

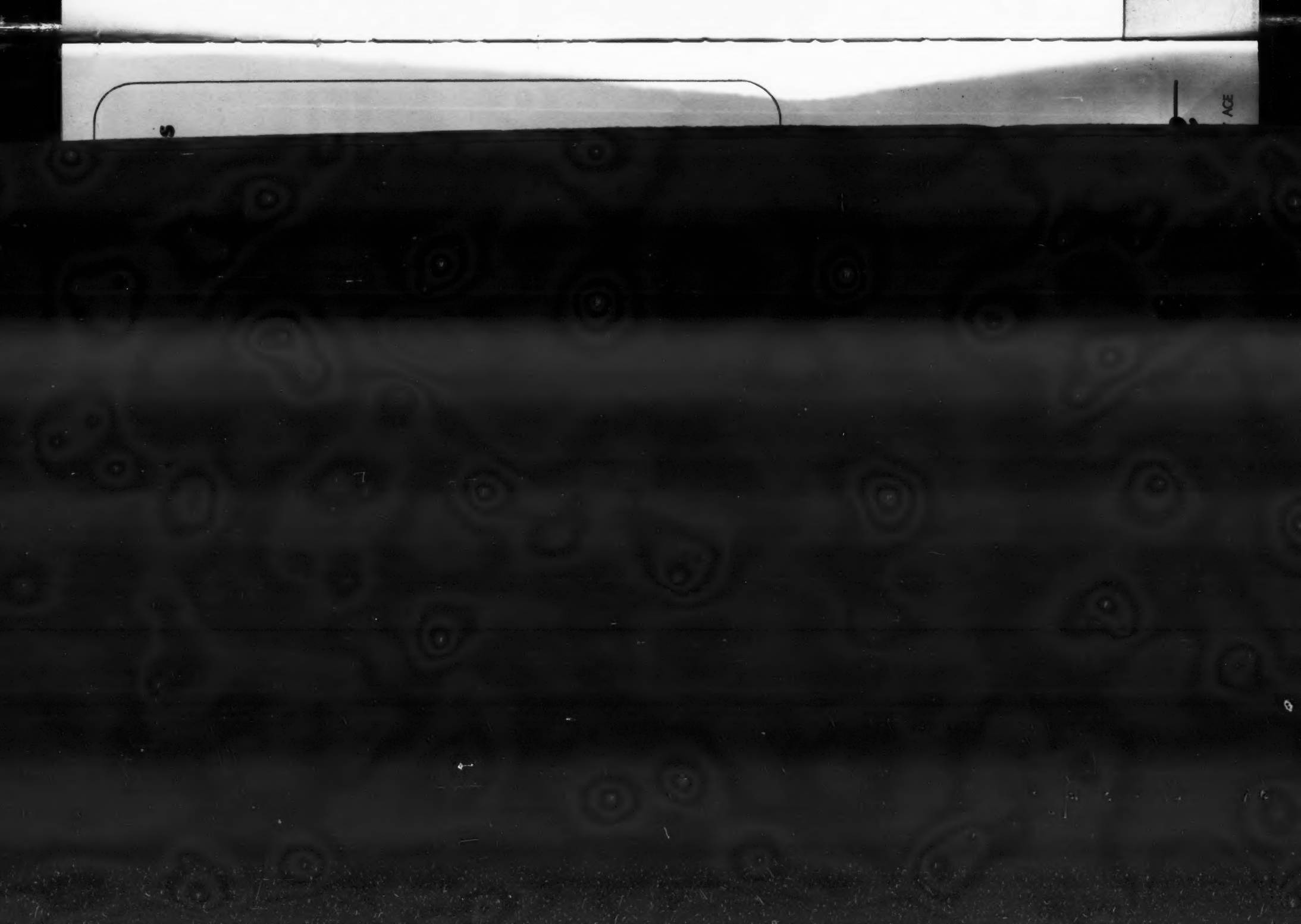
* * *

These systems are described in detail in a new bulletin—write for your copy today.

Walter Kidde & Company, Inc., 1124 Main Street, Belleville 9, New Jersey

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.

Kidde



MAGOR

Designers and Manufacturers of Freight Cars of all Types Including Air Dump Cars

The comfort, safety and efficiency of train crews must be recognized. We build Caboose Cars to satisfy the exacting needs of the Railroads.

MAGOR CAR CORPORATION

50 Church Street
New York 7, N. Y.

One of the testing machines which insure quality

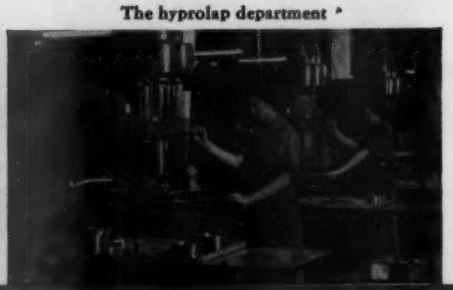
The boring mill department

The heat treating department

The hyprolap department

The chrome plating department

The bronze foundry



KOPPERS

These pictures

show one reason why

your piston rings and packing are better

Great improvements have been made in the production of piston rings and cylinder packing in recent years. Every modern advance in precision production equipment has been built into the plant of the American Hammered Piston Ring Division of Koppers Company, Inc. Here is a group of the machines and equipment added at Baltimore to increase life and performance of piston rings for Diesels and automotive equipment, pumps, compressors, etc., and of packing for locomotive cylinders.

These are some of the reasons why locomotive packing which used to need replacement in 25,000 to 45,000 miles now regularly delivers 200,000 miles without replacing.

KOPPERS COMPANY, INC., PITTSBURGH 19, PA.

KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

KOPPERS COMPANY, INC., Koppers Building, Pittsburgh 19, Pa.

Please send me the following Koppers booklets:

- ☐ Sectional Bronze-Iron Packing for Locomotive Main Cylinders and Valves
- ☐ Piston Rings for Compressors
- ☐ Piston Rings for 2-Cycle Single and Double Acting Diesel Engines
- ☐ Piston Rings for 4-Cycle High, Low, and Average Speed Diesel Engines
- ☐ Pressure-creosoted Timber Panel Grade Crossings
- ☐ Pressure-treated Railway Car Lumber
- ☐ Economical and Permanent Construction with Pressure-Treated Wood

NAME.....

STREET.....

CITY..... STATE.....

Buy Victory Bonds . . . and keep them!

These pictures

show many ways in which railroads can profit by using pressure-treated wood

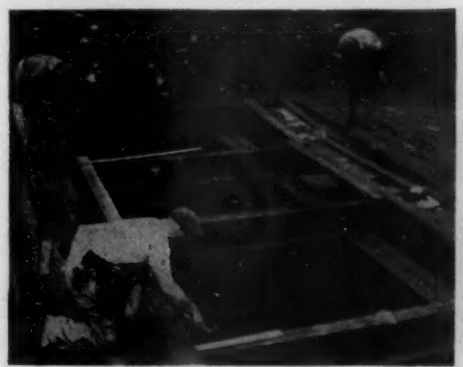
The railroads know how much pressure-creosoted wood has saved them in railway cross-tie costs. There are many other important applications where wood, pressure-treated with creosote or salt solutions can produce comparable savings in maintenance costs. Here are a few diversified installations where railroads are using pressure-treated wood. They will suggest substantial savings.

and the Railroads

Long-lasting retaining walls of pressure-treated wood cost less than walls of other permanent materials.

Station platforms can be fabricated before treatment and delivered ready for assembly

In a group of 200 stock cars, pressure-treated decks and stringers outlasted as many as 4 sets of untreated parts.



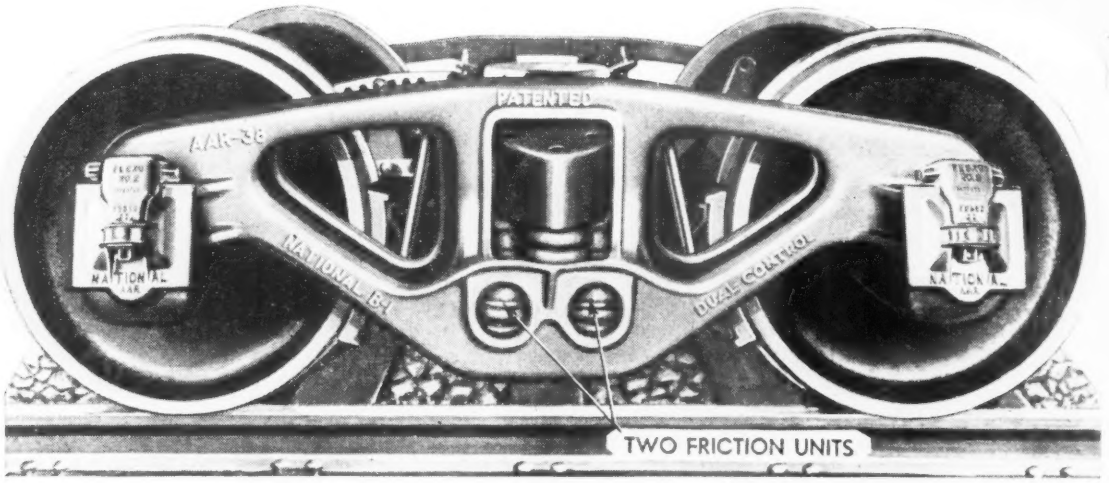
Pressure-treated wood's resistance to decay materially reduces maintenance costs of railroad structures.

Pressure-treated wood extends the life expectancy of running boards 3 or 4 times over untreated boards.

Pressure-creosoting extends the life of flat car decking far beyond that of untreated decks.

K-2398

Protect Car & Lading by DUAL CONTROL



Designed for Smooth Riding and Safety at any speed, whether light or loaded.

NATIONAL B-1 TRUCKS WITH DUAL CONTROL not only protect the lading, but prolong the life of cars, rail structure and roadbed.

Four friction elements built into each truck control both vertical and horizontal oscillations, and make separate snubbers unnecessary.

Standard or special springs are optional.

No Spring Plank—Fewer Parts—Quick Wheel Change

NATIONAL MALLEABLE AND STEEL CASTINGS CO.

General Offices: CLEVELAND, OHIO

Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco.
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

Canadian Representatives, Railway & Power Engineering Corporation, Ltd., Toronto and Montreal

IT'S EASY

to Upset a Cow...

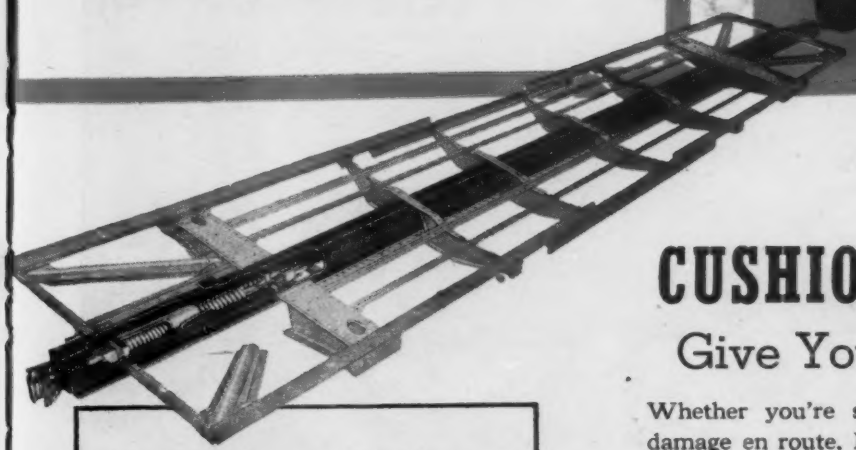
BUT—

A Western Road

FOUND THE WAY TO SHIP CATTLE SAFELY IN FREIGHT CARS

"...our Assistant Traffic Manager, in charge of such movements, has advised that he has never seen cattle down in cars equipped with Duryea Underframes."

(from a letter in our files)



DURYEA CUSHION UNDERFRAMES

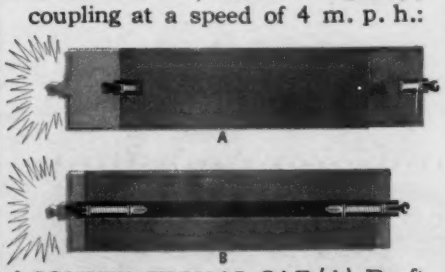
Give You Shockproof Shipping!

Whether you're shipping stock or *anything else* subject to damage en route, Duryea-equipped cars give you better arrivals, reduced losses. The unique Duryea floating center sill travels the force of any impact the entire length of the car, absorbing it as it goes in big cushion springs—car and lading ride *over* the blow, receive little shock.

HOW THE DURYEA CUSHION UNDERFRAME CONTRIBUTES TO VICTORY

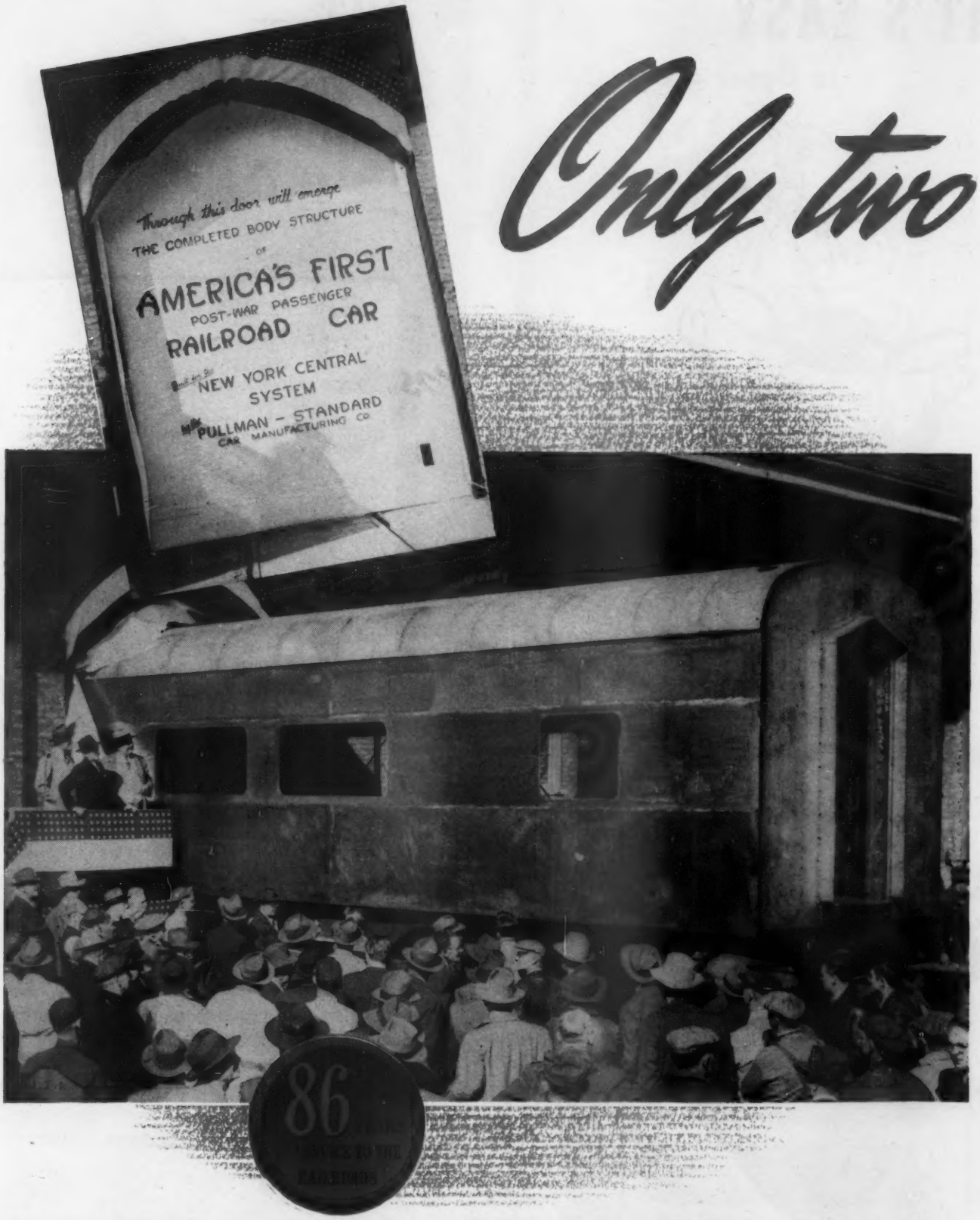
PROTECTS car and lading, prolongs car life, cuts damage claims.
PERMITS higher handling speeds.
ELIMINATES gear replacements, maintaining efficiency for life of car.
SAVES TIME loading and unloading. Needs less packing and bracing.
SAVES MONEY usually spent for maintenance on every part of car.
COMPLEMENTS air brake; Duryea cars withstand abrupt stops.
CUTS SLACK to pre-determined ideal.
COSTS NO MORE than conventional type, for average Duryea gear.

Here's what actually happens
... when two stationary freight cars receive the same impact, equivalent to a 50-ton car, loaded to capacity, coupling at a speed of 4 m. p. h.:



CONVENTIONAL CAR (A): Draft gear "goes solid," car receives almost entire impact.
DURYEA CAR (B): Shock absorbed by cushion gears, car and lading are comparatively undisturbed.

O. C. DURYEA CORPORATION
30 Rockefeller Plaza, N. Y. 20, N. Y. • 135 S. LaSalle St., Chicago 3, Ill.
725 Fifteenth St., N. W., Washington 5, D. C.



Only two

Pullman-

CHICAGO • NEW YORK

months after V-J day...

The Nation's First Postwar Lightweight Passenger Car Structure Rolls Off Pullman-Standard's Assembly Line

On October 17 this first car body — part of an order of 153 de luxe streamlined coaches being built for the New York Central — was moved from the steel erection shop to enter the final finishing stages.

This is evidence of our determination to produce for the railroads as quickly as it is possible to do so — to supply the rolling stock they require to continue the magnificent performance they have given America.

Standard CAR MANUFACTURING COMPANY

CLEVELAND • WASHINGTON, D. C. • PITTSBURGH • BALTIMORE • BIRMINGHAM • WORCESTER, MASS.

San Francisco Sales Representative, Mark Noble

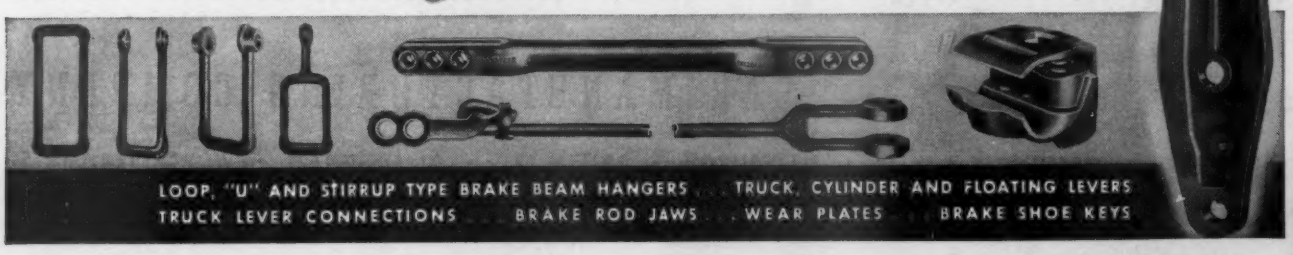
Schaefer BRAKE ROD JAWS are Drop Forged— and stronger than the ROD

The features designed and built into all Schaefer Jaws appeal to both mechanical engineers and the operating and shop personnel. ★ Their lightness, compared with the common types, and their forged-in strength, help insure longer life in service.

For complete details, see the new Schaefer catalog— Copy sent on request.

Schaefer EQUIPMENT COMPANY

KOPPERS BUILDING • PITTSBURGH, PA.


LOOP, "U" AND STIRRUP TYPE BRAKE BEAM HANGERS
TRUCK, CYLINDER AND FLOATING LEVERS
TRUCK LEVER CONNECTIONS
BRAKE ROD JAWS
WEAR PLATES
BRAKE SHOE KEYS

C
6
7

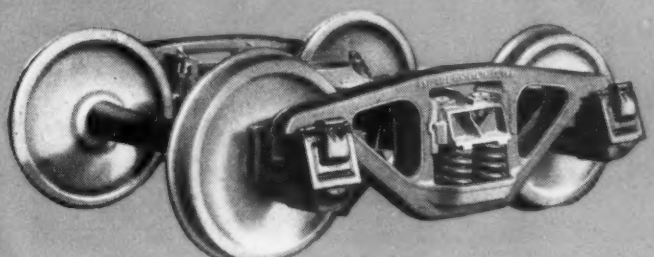
Coil springs develop their best riding qualities in the A.S.F. Ride-Control Truck. Constant friction control prevents spring resonance, yet allows maximum possible freedom of movement for natural cushioning effect—gives lading a smooth ride at all loads and speeds.

MINT-MARK OF ⬡ FINE CAST STEEL

Over 17,200 sets of this modern freight car truck are already in service or on order by 43 railroads and private car owners.

A·S·F *Ride-Control* TRUCK (A·3)

NO SPRING PLATES—NO SPRING PLANKS



LONG SPRING TRAVEL · CONSTANT FRICTION CONTROL

AMERICAN STEEL FOUNDRIES

CHICAGO

WHAT IS THE COST?

With reconversion and new construction under way, how important are cost factors? What is the cost of wear and tear and damage due to vibration? By controlling destructive vibration, patented Monroe Direct-Double-Action *Hydraulic* Shock Absorbers minimize costs because they protect lading . . . prolong equipment life and reduce roadbed wear. . . . A letter, wire or phone call to our nearest Railway Supply Division will bring you prompt attention.

Railway Supply Division

RAILWAY SUPPLY DIVISION OFFICES:

Monroe, Michigan
1400 East First St.
Tel.: Monroe 2100

Washington, D. C.
530 Investment Bldg.
Tel.: Republic 1363

Chicago, Ill.
3001 Willoughby Tower
Tel.: Andover 3266

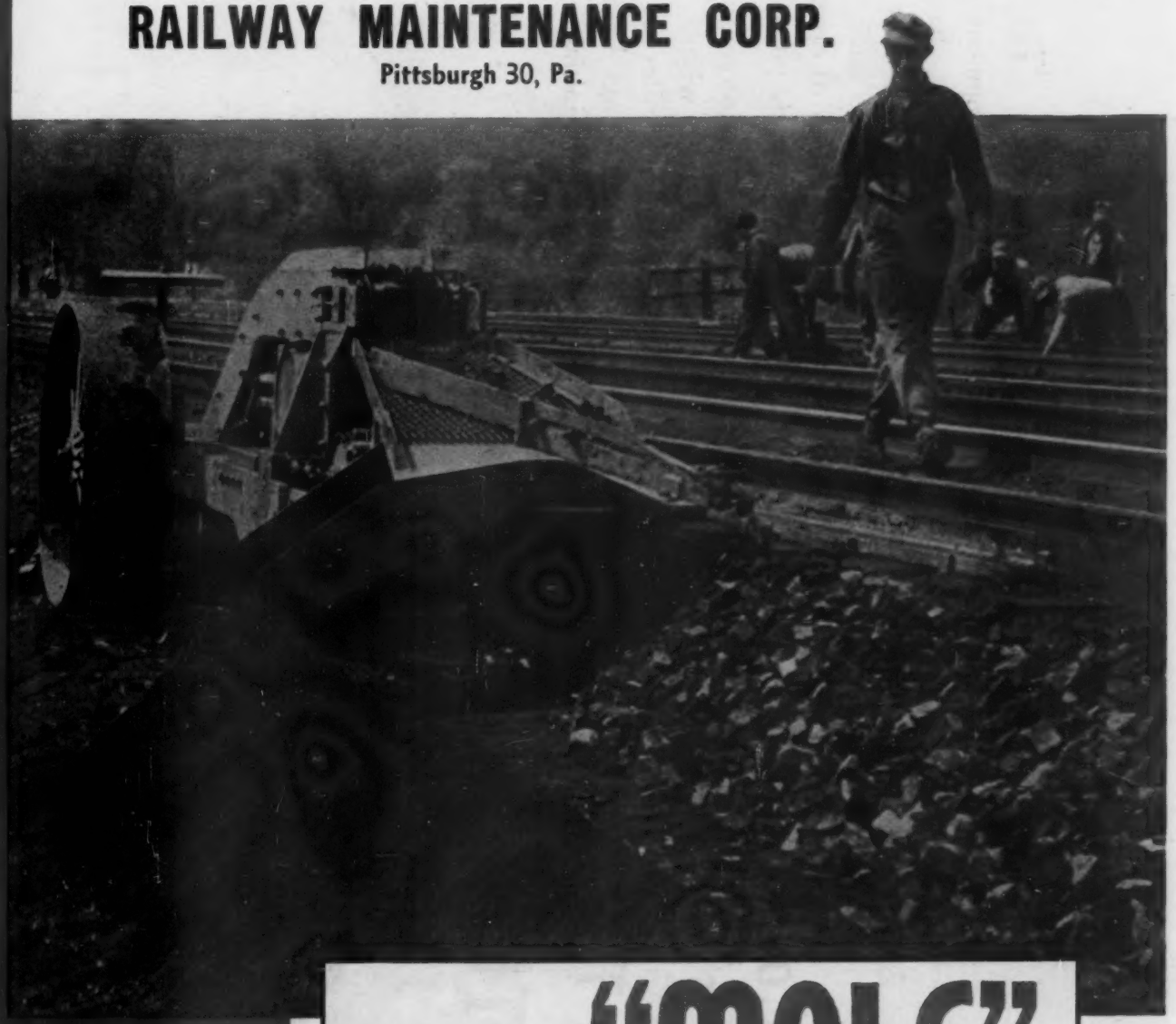
MONROE

Increased Ability!

- √ Wider cleaning range
- √ 25% more speed and greater screening capacity
- √ More horsepower
- √ Electric starting
- √ Improved accessibility of replacement parts
- √ Will clean intertrack ballast with track centers 12 to 15 ft.

RAILWAY MAINTENANCE CORP.

Pittsburgh 30, Pa.



AVAILABLE IN BORDER AND INTERTRACK MODELS

McWilliams "MOLE" cleans ballast better

World's First Coal Burning Turbo-Electric Locomotive To be equipped with TIMKEN BEARINGS

This revolutionary locomotive is a development of the Chesapeake and Ohio Railway, Baldwin Locomotive Works and Westinghouse Electric Company. Using coal as the basic source of energy it produces steam to operate a turbine, which generates electric power to drive the wheels.

The locomotive is designed to develop 6,000 H.P. with a potential speed of more than 100 miles per hour under full load. Timken Bearings have been specified for all axles. The initial order is for three locomotives.

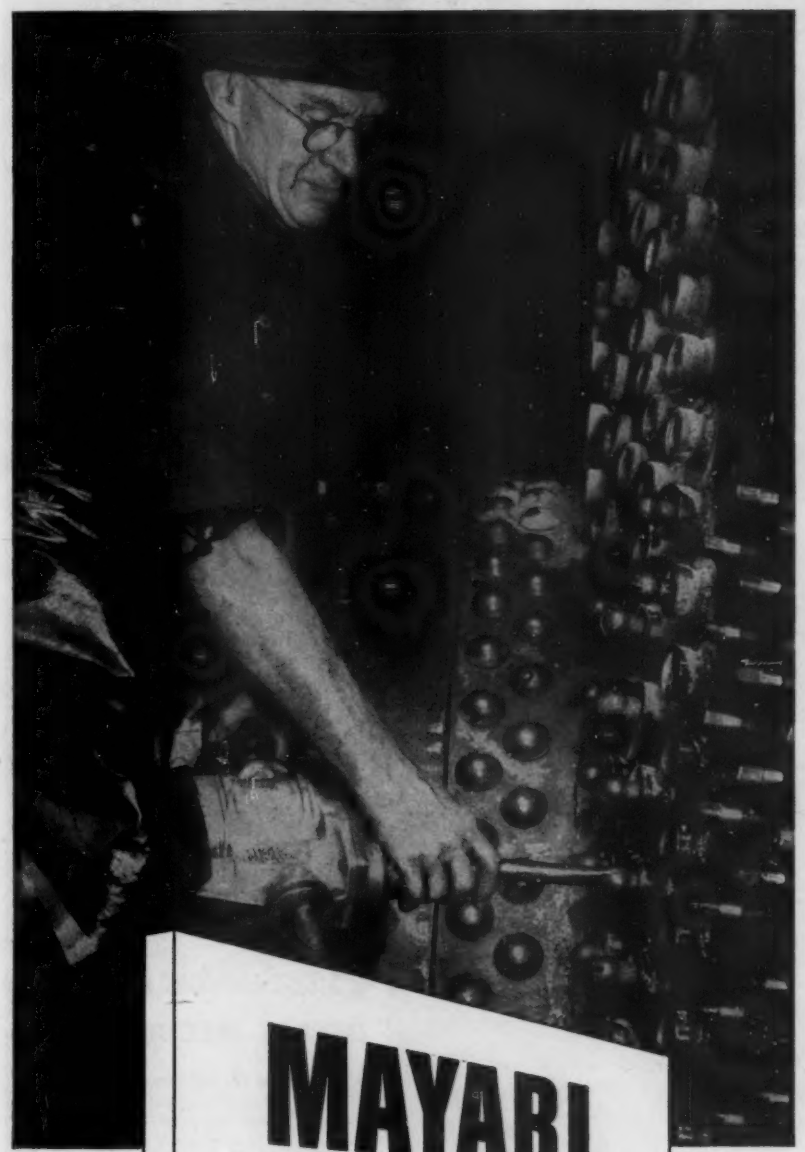
THE TIMKEN ROLLER BEARING COMPANY, CANTON 6, OHIO

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

RAILWAY ROLLER BEARINGS

Strength... HIGHER
Costs... LOWER



MAYARI
(RHYMES WITH "FIERY")
STAYBOLT STEELS

WHAT better reason for Mayari Staybolt Steels? Higher strength at lower cost . . . a natural, isn't it?

Mayari is a tough alloy that was developed to meet the increasing boiler pressures of modern locomotives. When you specify Mayari, you have your choice of either 50,000 or 55,000 pounds per sq. in. minimum tensile.

Consider these other advantages, too:

★ Excellent ductility

★ High fatigue- and shock-resistance

★ Good machineability

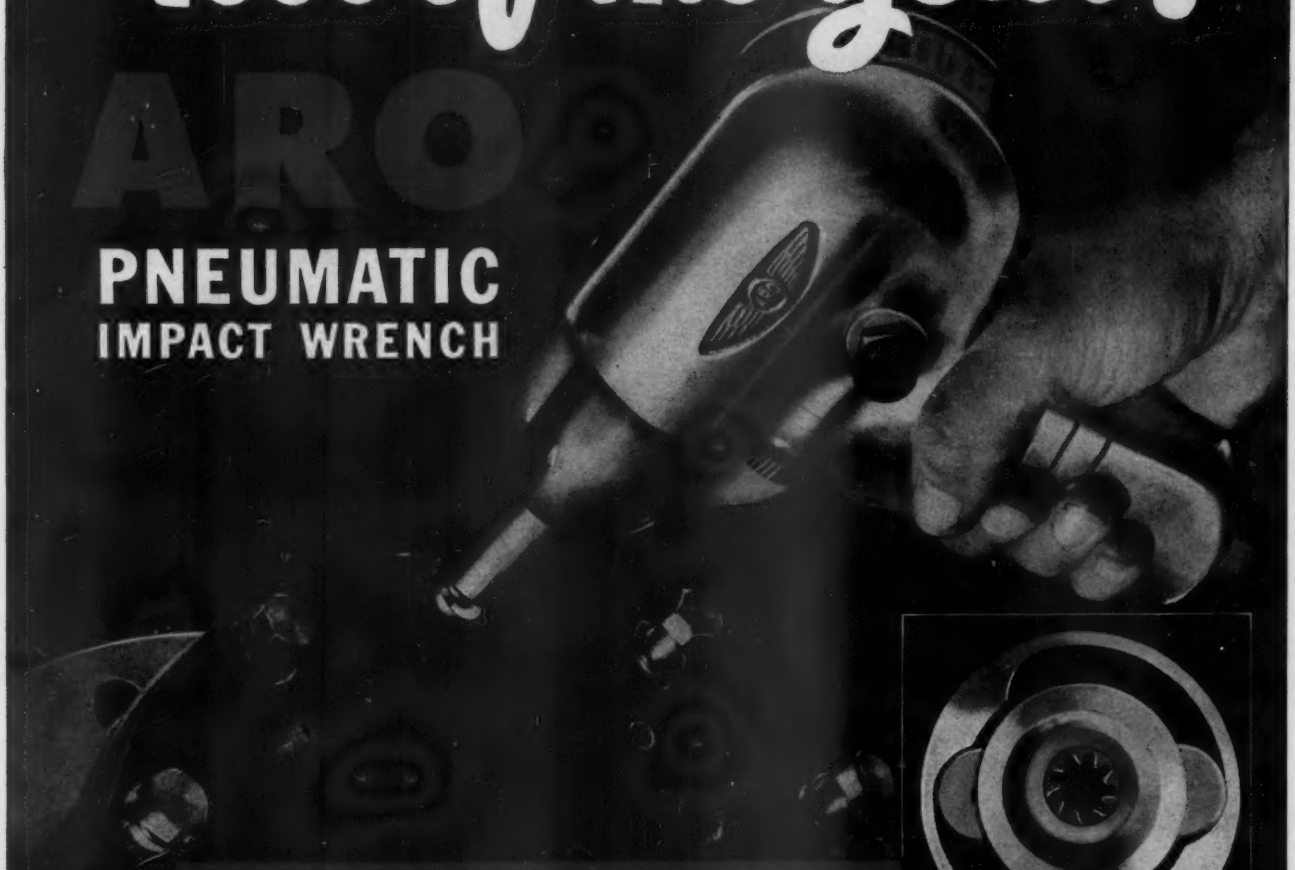
. . . PLUS Mayari's low price tag. Compare its cost with that of other materials formerly used. The difference is well worth saving.

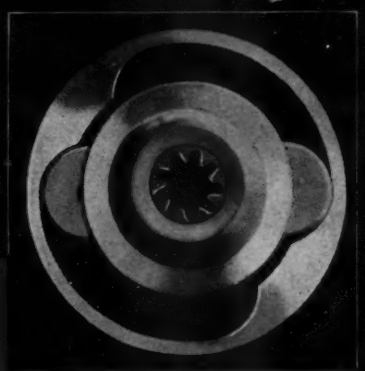
The advantages of Mayari have now been established by some of America's leading railroads. If you have not yet tried these staybolt steels, why not run some tests under your own supervision? There is no better way to check our statements.

BETHLEHEM STEEL

Tool of the Year!

PNEUMATIC IMPACT WRENCH





...With Controlled Torque

Scoring a big hit with production men everywhere—ARO Pneumatic Impact Tools meet new demands for *greater speed* and *precision* in nut-setting and screw-driving!

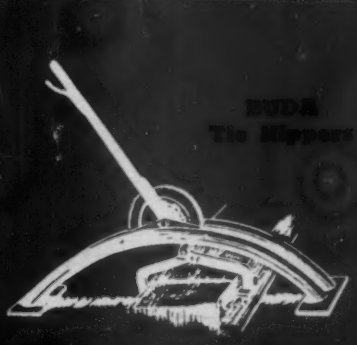
Now for the first time your production lines can set nuts and drive screws rapidly and accurately without stretching, stripping or "burning" ... made possible with the new ARO impact mechanism with CONTROLLED TORQUE.

Available in models up to 3/8" capacity. Light in weight... aluminum housing... sturdily built for long-life performance. Write for catalog No. 44. The Aro Equipment Corporation, Bryan, Ohio.

Exclusive ARO IMPACT MECHANISM

The simple impact mechanism has *only 4 parts.* Capable of both forward and reverse rotation. When predetermined torque is reached, the rollers rebound out of engagement with the hammer, thus avoiding any chance of stretching threads and breaking off bolts. Operator controls torque by merely turning calibrated adjusting screw.

PNEUMATIC ARO TOOLS — THE ARO EQUIPMENT CORP. — BRYAN, OHIO



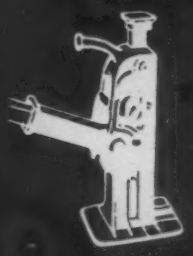
BUDA Tie Nippers

BUDA Rail Benders

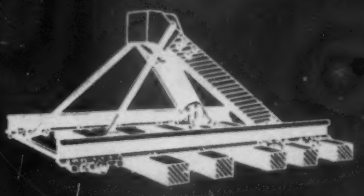
BUDA Track Liners

BUDA railroad products are known around the world for the economical and efficient jobs they perform.

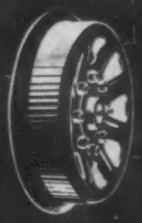
BUDA "Kwick-Klamp" Jacks



BUDA Track Jacks



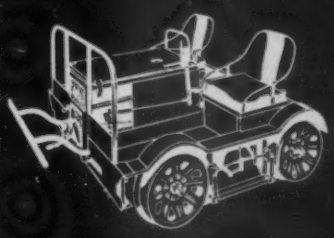
BUDA Bonding Ports



BUDA Car Wheels

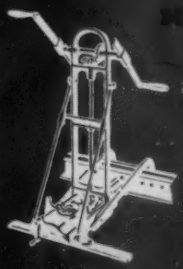
BUDA Crossing Gates

Have BUDA railway tools work for you — they will save you many man-hours. Send for explanatory bulletins.



BUDA Motor Cars

BUDA Chase Boys



BUDA Spark Drills

BUDA Car Replacers

BUDA

15401 Commercial Avenue
Harvey (Chicago Suburb) Illinois

THE IRON HORSE'S VOICE IS CHANGING!

YES, the iron horse has really grown up now. Gone are the days when trains talked only with their whistles—when they couldn't receive voice messages on the run. Now they're keeping pace with modern times—speaking up with their new voices, listening intently with their new ears—both given them by *mobile radio.*

And Western Electric—pioneer and leader in mobile radio for more than a quarter-century—will provide these voices and ears. We've gained the equivalent of another quarter-century's experience in our five years' job for the armed forces—experience that will make our new mobile radio equipment the finest yet.

Buy all the Victory Bonds you can—and keep them!

Western Electric

PIONEER AND LEADER IN MOBILE RADIO

QUESTION:

When oil costs are too high, what's the simplest way to cut them?

ANSWER: STOP DISCARDING USED OIL. RESTORE IT AND RE-USE IT.

QUESTION: ***Can This Be Done Successfully—and Economically?***

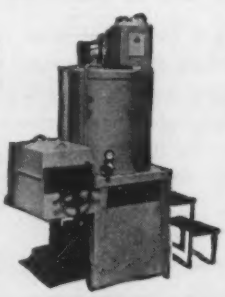
ANSWER: *Yes! Dirty or contaminated oil can be so thoroughly restored that you can use it in just the same place and manner as you used the new oil. And restoration costs only a few cents.*

QUESTION: ***What Kinds of Oil Can Be Restored?***

ANSWER: *Practically any kind used in your industry. You can restore used Diesel engine and other lubricating oils; hydraulic cylinder oils; transformer oils; oils for metal cutting—and can use them over and over again.*

QUESTION: ***What Steps Are Necessary to Restore Used Oil?***

ANSWER: *For fully satisfactory restoration, non-lubricating volatiles should be removed by slow heating, and solids and asphaltic materials by contact with earth and filtration. Acidity should be reduced to new oil values.*



QUESTION: ***Isn't This a Complicated Process?***

ANSWER: *No! The entire restoration is carried out in a single unit—the YM Oil Refiner.* No presettling or pretreatment *of the oil is needed; no special skill is needed to operate; only low-cost, readily available materials are required.*

QUESTION: ***How Can I Get More Information on the YM Method of Restoring Oil?***

ANSWER: *Just mail the coupon below for preliminary information. Or write us about your oil restoration requirements—we'll be glad to discuss them with you.*

The Youngstown Miller Company
1120 Kidde Avenue
Belleville 9, New Jersey

Gentlemen:
Please send me further information about the YM Oil Refiner—and names of users in this locality.

Name_____

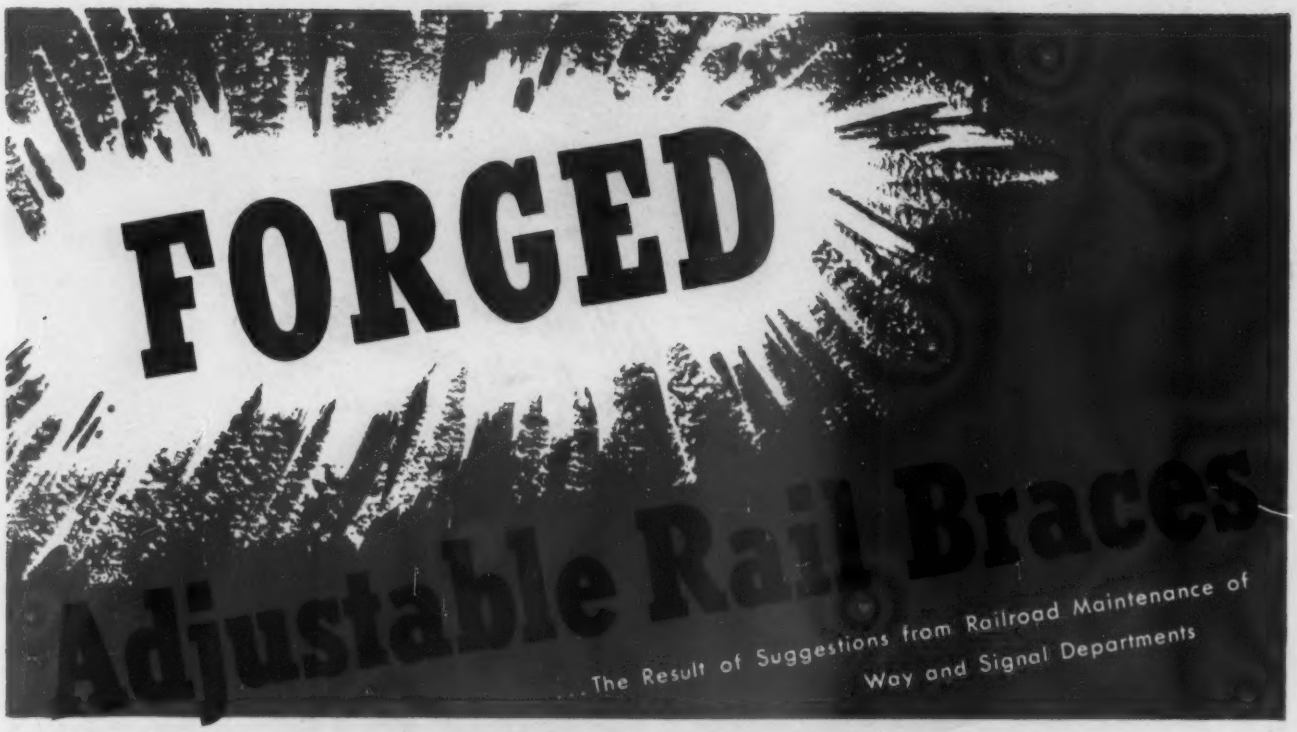
Position_____

Company_____

Street Address_____

City and State_____

THE YOUNGSTOWN MILLER COMPANY
A Subsidiary of Walter Kidde & Company, Inc.
1120 Kidde Avenue, Belleville 9, New Jersey

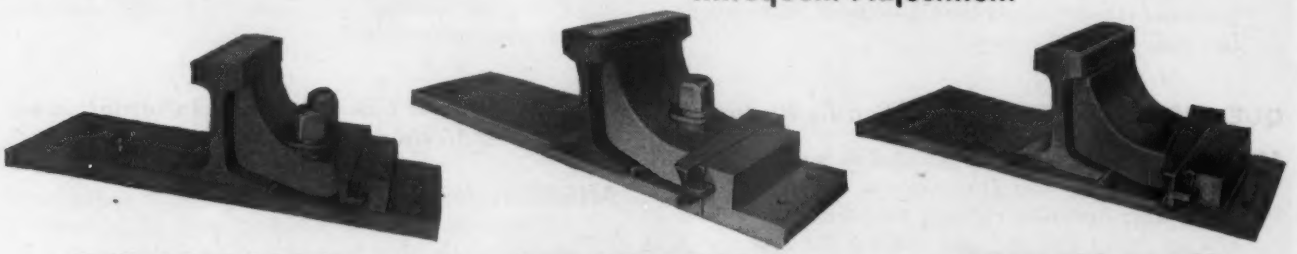


Uniform Fit of Accurately Formed and Smooth Surfaced Forgings

No Warped Castings Common to Cast Braces

Larger Wearing Surfaces Mean Longer Wear with Less Adjustments

Maintain Close Signal Adjustments Stronger... Heavier... Less Wear Means Infrequent Adjustment



TWO BOLT BRACE

Bolts will be initially tighter and will stay tight longer than on other bolted braces. Maintains gage and is an effective brace to the rail even if bolts work loose. Square-head acorn nuts spaced for 180° turn with ordinary track wrench. Easy to install, adjust or remove.

ONE BOLT BRACE

Single bolt acts as a pivot under rocking motion caused by change of wheel weight from receiving to leaving edges of plate—tends to remain tight longer. Square-head acorn nut permits 180° turn with ordinary track wrench. Easy to install, adjust or remove.

BOLTLESS BRACE

No bolts to corrode, wear or tighten. Controlled flexibility—up and down or wave motion of rail is not limited, yet restricts tipping or side-thrust. Maintains gage, and accurate signal adjustments. Simplicity assures proper maintenance. Four pieces—wedge,brace, key and plate.

★ *Maximum Bracing.... Minimum Maintenance.... Longer Service Life* ★

"Quality Since 1880"

PETTIBONE MULLIKEN CORPORATION

4710 West Division Street, Chicago 51, Illinois

STEEL CASTINGS BY PSF...

—and **DESIGN** *by* **PSF**

PSF Steel Casting Service is *complete*, as well as top-quality. We not only produced the open hearth charging-box car, above, but also developed the design—calculated to give improved operating qualities and life. What's more, we have all of the facilities to supply castings fully machined and assembled, if you desire. ● Let us figure on your requirements—any size, carbon or alloy steels.

47 YEARS OF STEEL CASTING KNOWLEDGE

Pittsburgh STEEL FOUNDRY CORPORATION

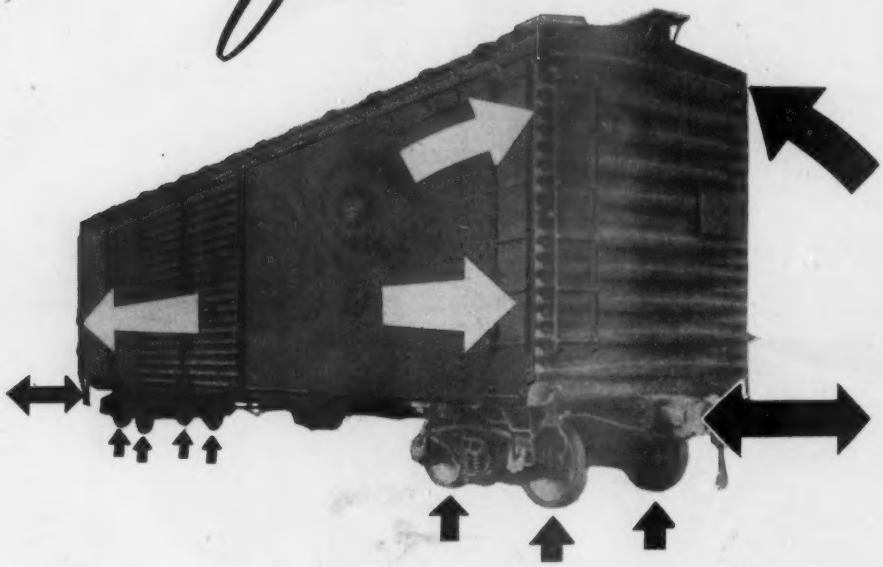
GLASSPORT, PA. Pittsburgh Spring and Steel Division, Pittsburgh, Pa.

W & D 9888

Sales Offices: NEW YORK • PHILADELPHIA • CHICAGO • CLEVELAND • CINCINNATI • AKRON • WASHINGTON • ST. PAUL • SAN FRANCISCO

Absorbing the shocks —

— from Every Direction



Cardwell and Westinghouse Friction Draft Gears and Bolster Springs absorb and reduce shocks from *every* direction—buffing, starting, roadbed shocks and side sway — increasing the safety of car movements and preventing damage to cars and ladings.

Over 98% of the cars in freight carrying service are A. A. R. construction, and over 96% have Friction Draft Gears.

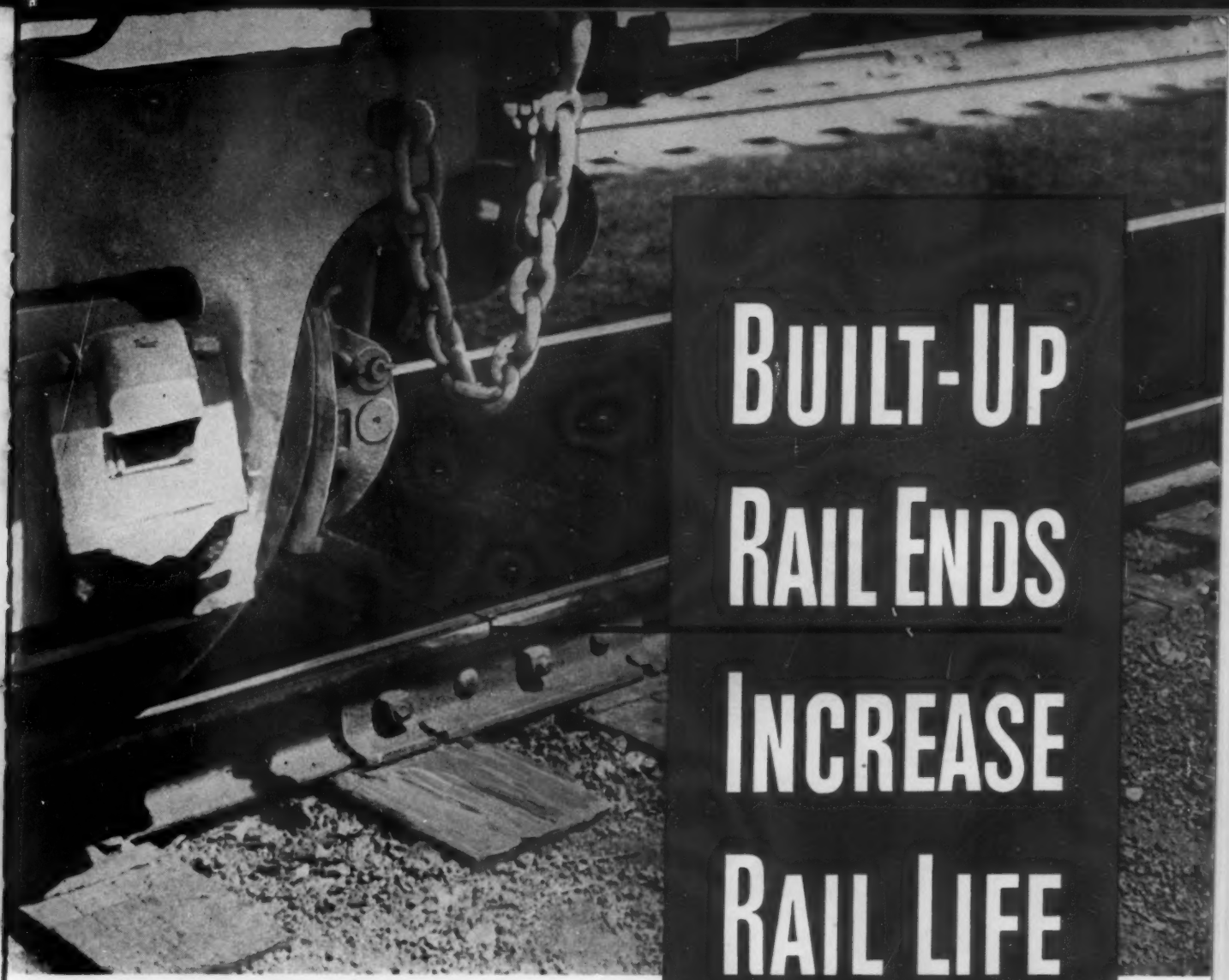
Westinghouse NY-11-F Friction Draft Gear Certified A. A. R.

Cardwell Friction Bolster Spring Type A

Cardwell Westinghouse Co., Chicago

Canadian Cardwell Co., Ltd., Montreal

1315



BUILT-UP RAIL ENDS INCREASE RAIL LIFE

● Building up battered rail ends with OXWELD MW welding rod increases the life of rail in first position from 50 to 100 per cent. Rail ends built up with this rod provide an armored surface that is more batter-resistant than the original rail metal. Worn rail and trackwork which has been restored to a true-riding surface results in reduced wear on ties, joint bars, and rolling stock. The work may be done in track with no interruption to traffic.

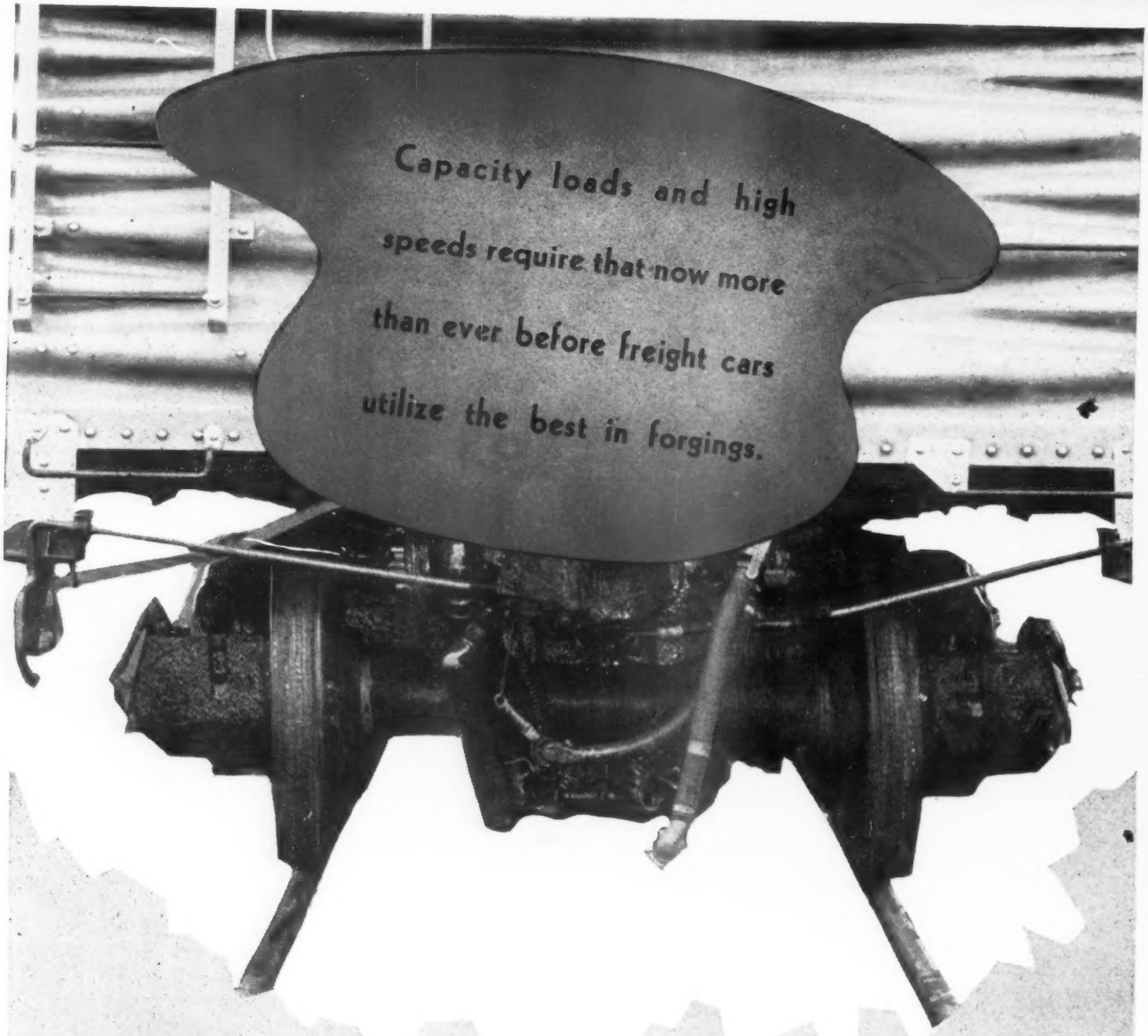
Ask an Oxweld representative to tell you about this and other cost-saving maintenance methods.

Buy and Hold United States Victory Bonds and Stamps

This rail end, built up by Oxweld's method, has a hard, smooth surface.

The word "Oxweld" and the designation "MW" are registered trade-marks of Union Carbide and Carbon Corporation.

THE OXWELD RAILROAD SERVICE COMPANY
Unit of Union Carbide and Carbon Corporation
UCC
Carbide and Carbon Building Chicago and New York



For Car Axles

and other car forgings that will meet your needs and specifications write —

STANDARD FORGINGS CORP.

Plant: INDIANA HARBOR STATION, EAST CHICAGO, INDIANA

General Offices: RAILWAY EXCHANGE BLDG., CHICAGO 4, ILL.

Westi

WESTING
FOR TR

- Armature
- Shafts an
- Brushes a
- Commuta
- Control P
- Control A
- Control S
- Type M,

November 3,

Westinghouse Renewal Parts

- are Easy to Install
- are Interchangeable
- give Longer Life
- need Less Maintenance

WESTINGHOUSE RENEWAL PARTS FOR TRANSPORTATION INDUSTRY

- Armature and Field Coils
- Shafts and Bearings
- Brushes and Brushholders
- Commutators and Assembled Segments
- Control Parts
- Control Accessories
- Control Switches
- Type M, TM or MA Resistors

Here is one way to help keep your transportation equipment in running order. Take advantage of the Westinghouse Maintenance Service.

Designed for quick installation, easy maintenance . . . and interchangeability, these Westinghouse Renewal Parts include many modern improvements to give longer life to your electrical apparatus. Using them results in "less time out" for your equipment—"more time in" to meet today's peak transit periods.

There are 34 Westinghouse Repair Plants to assist you in maintaining your equipment. Renewal parts are quickly available from the 17 completely stocked Westinghouse Renewal Parts Warehouses strategically located throughout the country. Call your nearest Westinghouse office, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-15105

Westinghouse RENEWAL PARTS

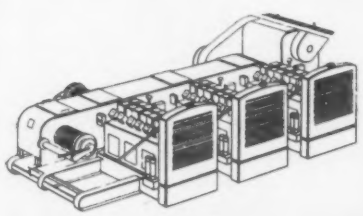
How to Put the
"EASY TOUCH"

on Diesel Road Locomotives

THE "*easy touch*" on the road locomotives means finer control of power and smoother starting by means of the pneumatic throttle. With the engine idling, setting up of electrical circuits and regulation of engine speed are governed by the control handle. In the starting zone, engine speed is held constant and the field resistance cut out gradually until full power intensity is applied.

As the handle is advanced further, the pneumatic throttle cuts in and increases engine speed progressively. Operation is interlocked with the reverser handle so that the reverser cannot be moved to change direction unless the control handle is moved to "off" position. Smooth starting, precise engine control and direction interlocking are characteristic of the pneumatic throttle — single handle control.

The pneumatic throttle, as used on all classes of steam and Diesel locomotives, has demonstrated a wide utility for stationary and marine Diesels. An interesting application is on oil rigs where three Diesels work together on hoisting operations. The pneumatic throttle synchronizes engine output by maintaining balanced fuel supply to all three engines.



WESTINGHOUSE AIR BRAKE CO.

WILMERDING, PENNSYLVANIA

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

Vol. 119 November 3, 1945 No. 18

PUBLISHED EACH SATURDAY BY THE SIMMONS-BOARDMAN PUBLISHING CORPORATION, 1309 NOBLE STREET, PHILADELPHIA 23, PA., WITH EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y. AND 105 W. ADAMS STREET, CHICAGO 3, ILL.

WASHINGTON 4, D. C.: 1081 NATIONAL PRESS BUILDING, CLEVELAND 13: TERMINAL TOWER, SEATTLE 1: 1033 HENRY BUILDING, SAN FRANCISCO 4: 300 MONTGOMERY STREET, ROOMS 805-806. LOS ANGELES 14: 530 WEST 6th STREET, DALLAS 4: 4513 ROLAND AVENUE.

SAMUEL O. DUNN, CHAIRMAN. HENRY LEE, PRESIDENT. ROY V. WRIGHT, VICE-PRESIDENT AND SECRETARY. F. H. THOMPSON, F. C. KOCH, R. E. THAYER, H. A. MORRISON, J. G. LYNE, H. E. McCANDLESS, VICE-PRESIDENTS. J. T. DeMOTT, TREASURER.

SAMUEL O. DUNN, EDITOR. ROY V. WRIGHT, MANAGING EDITOR. JAMES G. LYNE, ASS'T. TO EDITOR. CHARLES LAYNG, WESTERN EDITOR. C. B. PECK. ALFRED G. OEHLER. E. L. WOODWARD. J. H. DUNN. H. C. WILCOX. NEAL D. HOWARD. GEORGE E. BOYD. WALTER J. TAFT. M. H. DICK. JOHN S. VREELAND. C. MILES BURPEE. ARTHUR J. McGINNIS. J. L. STOVER. C. B. TAVENNER. H. E. MEASON. CHARLES ROBINSON. GEORGE H. PARIS, LIBRARIAN; EDITH C. STONE, EDITORIAL ASSISTANT; BETTY KETCHUM.

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PAPERS (A. B. P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.).

SUBSCRIPTIONS, INCLUDING 52 REGULAR WEEKLY ISSUES, AND SPECIAL DAILY EDITIONS PUBLISHED FROM TIME TO TIME IN NEW YORK OR IN PLACES OTHER THAN NEW YORK, PAYABLE IN ADVANCE AND POSTAGE FREE. UNITED STATES, U. S. POSSESSIONS AND CANADA: 1 YEAR $6.00; 2 YEARS $10.00; FOREIGN COUNTRIES, NOT INCLUDING DAILY EDITIONS: 1 YEAR, $8.00; 2 YEARS, $14.00. SINGLE COPIES, 25 CENTS EACH. H. E. McCANDLESS, CIRCULATION MANAGER, 30 CHURCH STREET, NEW YORK 7.

In This Issue

Page

C. & O. Rebuilds Its Big Sandy Bridge *708*

Describes project involving change-over from five-span 977-ft. truss bridge to a new modern structure on original alinement and using existing masonry piers — Careful planning minimized interference with traffic.

Public Thinks Railroad Situation Okay *717*

The results of 1945 survey of public opinion made for the Association of American Railroads by the Opinion Research Corporation, and described herein, reveal that while the railroads enjoy a large popularity, they can expect little help from this attitude in ending competitive inequalities.

Unified Industry a Military Peril *719*

War Department findings indicate "knocking out German railroads was the decisive blow that completely disorganized the German economy," and that raids did little harm to production in dispersed industry.

EDITORIALS

Public Uninformed of Railroads' Handicaps 705
Private Ownership in Grave Danger in Britain 706
Commercial Standards for Hardware and Tools 706
Rip Tracks Should Be Improved 707
Machine for Cribbing 707

GENERAL ARTICLES

C. & O. Rebuilds Its Big Sandy Bridge 708
Radio for Western Union Trunk Lines 711
Fraser Becomes President of M-K-T 712
Visual Education for Freight Handlers, by Capt. W. H. Schmidt 713
More Detailed Fuel Statistics Advocated 715
Public Thinks Railroad Situation Okay 717
Unified Industry a Military Peril 719

GENERAL NEWS 721

WITH-THE-GOVERNMENT AGENCIES 726

OPERATING REVENUES AND EXPENSES 738

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

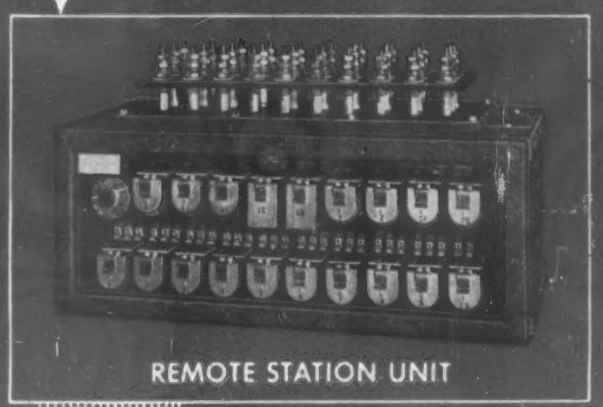
★

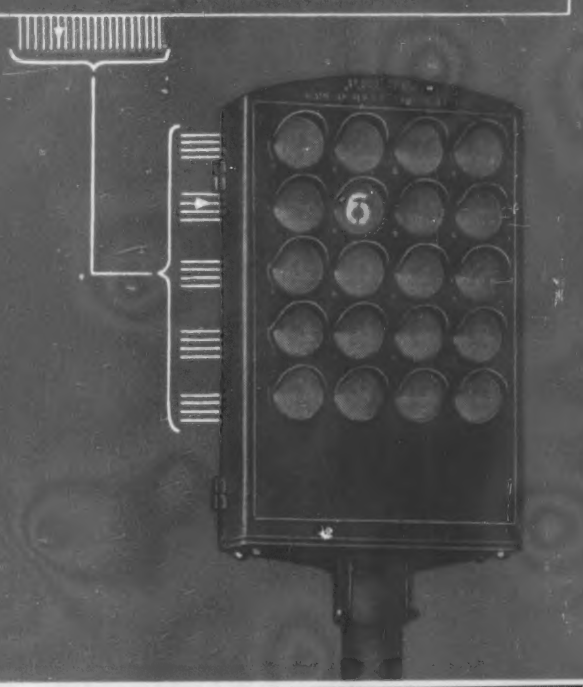
PRINTED IN U. S. A.

"UNION" 512 ----- a simple code control system with many applications

CONTROLS

TWO-WIRE
LINE CIRCUIT





The "Union" 512 code control system permits the selection and control, over a single pair of line wires, of any one of a number of functions. It utilizes a simple counting code and is applicable in situations where return indications are not required.

A typical application is the yard indicator system shown at the left, the purpose of which is to tell the engineman on an incoming train which track to take.

Levers on the panel of the transmitting apparatus control relays in the cabinet below. Relays in the receiving apparatus operate in step with the impulses sent out by the transmitting apparatus so that movement of a lever on the transmitter causes a corresponding light to appear on the indicator panel.

Only one light can be on at a time, and it stays on until the lever in the control machine is returned to a neutral position.

The "Union" 512 system has a number of possible applications in railroad service. For example, it may be used to notify a towerman of the identity of an approaching train; to indicate on a train bulletin board that a certain train has arrived, and in various other ways.

Our nearest district office will be glad to supply full information on this and other "Union" Code Control systems and their applications.

UNION SWITCH & SIGNAL COMPANY

SWISSVALE PENNSYLVANIA

New York Chicago St. Louis San Francisco

The Week at a Glance

RAILROADS LIKED: The railroads slipped a notch or two in popular esteem from mid-1944 to mid-1945, but they came to the war's end with 89 per cent of the public with views on the subject saying the railroads had done a good job. By way of contrast, back in 1941, only a little over half of the people thought the railroads were prepared to do a good job if a war came along—and, in 1941, just about half of them favored government operation in event of a war, while, this year, those inclined to government operation were only 24 per cent. These and other significant disclosures of the carriers' standing with the public are revealed in the fifth annual opinion survey conducted for the A. A. R., and reviewed in an article on page 717 herein.

●

RR TROUBLES UNKNOWN: "What's the good of popularity if they don't trade at your store?"—such is the question many a retailer with lots of friends has asked himself; and, maybe, the 1945 A.A.R. opinion survey will start some railroaders to pondering along similar lines. Because the figures show, with all the esteem the railroads enjoy, the public has no notion at all that they have any troubles from competitive inequality. As a matter of fact, a majority of Americans actually believe that the railroads have received more government aid than any of their rivals. Our article, toward the end, tells of the simple test by which these opinion researchers give assurance that actual questioning of 2,500 Americans tells them accurately the views of 130 million.

●

WESTERN UNION RADIO: During the course of the next seven years Western Union plans to shift its major trunk-line telegraph circuits from wires to a nation-wide system of super-high-frequency radio relays—which will largely increase available channels and will be subject to little or no interruption from storms. Branch circuits will continue to employ wire lines as at present. Existing pole-line contracts with the railroads will be carried out, but with opportunity extended to the railroads in many cases to acquire such facilities under favorable terms—enabling the railways to enlarge their own communication facilities at reduced expense. An illustrated article in these pages outlines the principal features of the project.

●

LESSONS FROM BOMBING: The War Department has published a candid survey of the strategic bombing of Germany, reviewed in a brief article in this issue. Failures as well as successes are reported—one of the latter being the neglect by our airmen of the Nazi's electric power stations, the knocking out of 45 of which would have destroyed two-fifths of the nation's power supply. About the easiest facility to tie up by bombing, apparently, is a navigable waterway. The report makes it evident that a nation without complete control of its own air and with its industry and transportation unduly concentrated is pretty much of a push-over to invading airpower. The report doesn't say so, but its reading suggests that a dam in a river is just about the most naive facility in which a modern nation could place its trust and its resources—representing, as it does, unparalleled concentration of capital and practical irreplaceability if destroyed. This observation is respectfully called to the attention of devotees of the St. Lawrence project, the T. V. A. and other such anachronisms.

●

KING SUCCEEDS KIRK: Homer King, who has succeeded Brig. Gen. Charles D. Young as deputy director of O. D. T., has had some more duties handed to him. He has taken over the responsibilities formerly devolving upon W. F. Kirk as the I. C. C.'s agent authorized to order the diversion of traffic from one railroad to another, to avoid congestion; and he also succeeds Mr. Kirk in the latter's functions as federal manager of the Illinois Central —which, it may be recalled, is still being operated, technically, by the federal government. Mr. Kirk has returned to the Missouri Pacific.

●

"KIRK ORDERS": In reviewing the services of Mr. Kirk to war-time transportation, Colonel J. Monroe Johnson refers to the job he did as "truly unique in the history of American transportation." Up to October 29, 316 "Kirk orders" for traffic diversion were issued, involving 333,000 carloads—225,000 being diverted to bypass terminals, 25,000 to avoid line interruptions, and 83,000 to get them off of congested main lines and onto those with spare capacity. Monthly car-miles on the western lines, to which Mr. Kirk's attention was principally devoted, rose 70 per cent from 1940 to 1945 and passenger train-miles went up 36 per cent.

●

LAND-GRANT BILL DELAY: The House on October 29 voted against acceptance of the conference report on the Boren bill, repealing land-grant rate reductions on military traffic. What the legislators didn't like about the conference report on this measure was a "rider" put into it by the Senate, providing for a fund of $68,000,000 to be used to reclaim and improve lands in 13 states, enabling veterans to acquire them for farming purposes. Objectors didn't like a plan for benefits to veterans which was not of country-wide application.

●

GERMAN R. R. CONTROL: In our news pages, Colonel Dawes E. Brisbine is quoted on recent transportation developments in Germany. In the American zone of occupation Maj. Gen. Frank E. Ross, chief of transportation, E. T. O., is in charge of all transportation, with Brig. Gen. John Appleton heading the railroad end of the job. The plan is to turn the railroads back to German civilians just as fast as the lines are sufficiently rehabilitated and enough experienced personnel can be found to operate them—and some of the lines have already been turned over on this basis. Colonel Brisbine gives some information on the excess capacity the German railways had built up prior to the outbreak of the war.

BIG SANDY BRIDGE: Severe limitations on the operation of heavy locomotives over the Chesapeake & Ohio's Big Sandy bridge have occasioned the renewal of this five-span, double-track structure, under traffic—the operation being described in an illustrated article in this issue. The old stone masonry piers were retained, being cut down slightly and recapped with concrete. The superstructure is new, and approach trestles at both ends have been reinforced—and a bridge originally built to Cooper E-30 loading is now rated at Cooper E-72.

●

BETTER L.C.L. HANDLING: Some Army officers, responsible for the military side of the Army-Navy l. c. l. consolidating stations, thought it would be a good idea to impress upon freight handlers the importance to the war effort of proper performance of their jobs. Looking around for suitable material for visual education along these lines and not finding it, the Army boys went to work with such amateur talent as they could find and produced a series of posters. A short article on this issue reproduces several of these posters and reveals the highly favorable showing of reduced misloads which this educational effort produced.

●

MORE A. A. R. RESEARCH: The directors of the Association of American Railroads have approved two research projects—one of them to go more extensively than heretofore into the possible improvement of refrigerator cars. Among the developments to be looked into are mechanical refrigeration and the techniques for handling frozen foods. The other project will concern itself with improvement of freight containers. The annual meeting of A. A. R. member roads will be held at the Hotel Blackstone, Chicago, on November 30.

●

RATE CHANGES POSTPONED: The "interim" lowering of class rates in the South and West, and their increase in the East, which was scheduled for November 30, has been set back until January 1—the principal reason being the printers' strike in Chicago which delayed the printing of tariffs.

●

PULLMAN PLANS: The country's major railroads this week intervened in the Pullman "separation" case now pending in the federal court at Philadelphia, offering to buy the sleeping-car properties, and objecting to the sale of the company in a manner to involve the "transgression" of railroad rights. The court's hearing on proposals for the sale of Pullman is scheduled for November 5.

●

SEEK MORE FUEL FIGURES: What the men who actually work with locomotive fuel performance need in the way of dependable and comparable statistics of fuel consumption is outlined in an article herein, being a summary of a report on this subject by a committee of the Railway Fuel and Traveling Engineers Association.

IT'S A GREAT NEW DAY FOR RAILROADING

RAILROADS KNOW A GOOD THING

General Motors Diesel locomotives were a *new idea* eleven years ago. In the beginning, it wasn't too easy to convince the railroads that this new power was practicable for long-term service.

But the records they immediately began to run up; the efficiencies and economies they have long since proved, have resulted in eighty or more railroads' and heavy industries' acceptance of General Motors Diesel locomotives — and created a heavy backlog of orders for postwar delivery.

These fast, powerful, modern locomotives have also proved that the railroads know a good thing when they see it; and when they are convinced, they do something about it.

ADD SECURITY TO VICTORY
BUY MORE VICTORY BONDS

GENERAL MOTORS
LOCOMOTIVES

RAILWAY AGE

Public Uninformed of Railroads' Handicaps

The survey of public opinion regarding the railroads, made by the Opinion Research Corporation for the Association of American Railroads and summarized in an article in this issue, makes it plain that, generally speaking, *the public has no understanding whatever of the basic railroad problem*—that is, the intolerable competitive impediment under which the railroads labor from being the only important agency of transportation which has to provide from private investment its own fixed property and to pay taxes on such property.

Railroads Liked, Their Problems Unrecognized

The survey discloses that the public is opposed to governmental favoritism in transportation; but a substantial majority believes that equality of treatment already exists. Most of those who are of the opinion that the government should take positive action to assure equality of treatment believe that it can be attained by regulation of rates and practices. They have no realization whatever that inequality of regulation is to the railroads only a minor irritant when compared with the transcendent inequity which they suffer in having to finance all their fixed plant from private investment, while comparable plant used to provide air, waterway and highway transportation is made a charge on the public treasury and is tax-free.

As a matter of fact, the opinion survey indicates that a majority of the public actually believes the railroads have received more governmental assistance than any other form of transportation. Holding such views—so plainly incompatible with the continued functioning of the railroads as a vigorous and healthy private enterprise—the public, nevertheless, esteems the railroads highly, is opposed to government ownership, and is aware of the importance of efficient railroad service.

In other words, the people want a vigorous railroad industry under private ownership and have no idea at all that any threat to this condition exists. It is hard to dissuade a man who has a bad heart from running upstairs as long as his heart condition is kept secret from him. It is just as hard to persuade the public to correct the inequities which threaten the life of private capitalism in transportation, while concealing from them the fetters in which the railroads are trying to carry on.

To give the public the essential information without the appearance of fault-finding—or "whining" as it is sometimes called—poses a difficult public relations problem, but one which cannot be avoided just because it is hard. One possible approach might be to engage the services of an economic research organization of unquestionable reputation, asking it to make an independent study of the following questions:

1. To what degree does available evidence indicate that the nation's economic welfare and military defense require the service of a vigorous railroad industry?

2. If the evidence indicates that a healthy railroad industry is still needed in the national interest, what evidence is there, if any, that adequate financing of such an industry is in any important degree endangered by existing differences in governmental dealing with the various agencies of transportation, and what steps should be taken to correct such untoward condition, if it is found to exist?

A competent independent inquiry into such questions could not fail to disclose the difficulties from which the railroads are suffering, and such findings could then be widely and intensively publicized by the railroads without giving grounds for suspicion of special pleading or self-serving. If this suggestion does not meet the requirements, who will put forward a better one? The time has come when a faulty effort to spread some light on this dangerous blind spot in the public's economic understanding would be a great deal better, and also safer, than persistence in doing nothing.

Railroads and National Safety

The recent war could not have been won without the enormous service performed by the railroads—and that service was the product of two factors: (1) A near-miracle of organized cooperation among the railroads and their customers, civil and military, and (2) the heavy capital expenditures made by the railroads in the 'Twenties. The decade of the 'Thirties was one of stagnation and even of deterioration as far as expansion of railroad capacity was concerned—and the reason lay not only in the depression, but in the enormous increase in governmental outlays for the promotion of rival agencies of transportation. Now, in the face of an overwhelming demonstration of the nation's utter dependence upon the railroads when a transportation job of astronomical size must be done, government is preparing to renew its expenditures on a larger scale than ever to promote expansion of competing facilities designed further to weaken the railroads as they were weakened in the 'Thirties. Patriotism alone—to say nothing of a proper regard for their own interests—must impel those who understand the national peril in this situation to do their utmost to arouse public appreciation of it.

Private Ownership in Grave Danger in Britain

British railway employees have been awarded a further wage increase which appears to have been in the neighborhood of 10 per cent, and minimum wages in the London area are now 87 shillings (about $17.40) a week, as compared to a pre-war 50 shillings (10). The average monetary increase, percentagewise, which British railway employees have received since the war began is about 60 per cent, but the resulting wages—for example, a little over $21 for a 47-hour week for journeymen machinists—will scarcely lead American railway employees to yearn for an exchange of rights with British railroaders doing work similar to their own. Moreover, the increase in "real" wages has been less than the percentages may suggest, because the rise in living costs has been greater in Britain than on this side of the Atlantic.

To meet this ratio of increased wages, the British railways have been permitted an increase of only 16⅔ per cent in rates and fares. Nevertheless, because of the enormous volume of war-time traffic, their operations have been profitable—but for the benefit of the government and not that of the railways' owners. This follows from the fact that the railways were nominally "taken over" by the government for war-time operation, with the government paying the owners as rental the average net earnings of the immediate pre-war years. This arrangement has been a good bargain for the government and a bad one for the railways, allowing the government in the four years ended with 1944 to pocket over $700,000,000 of railway net revenues, over and above what it has paid to railway owners as compensation for the use of their property.

Now, however, the railways will be turned back to their owners—if they *are* turned back at all—with wages up 60 per cent from pre-war and rates up only 16⅔ percent and with no war-time volume of traffic to sustain such a wage increase with so small an increase in rates.

Government ownership and operation of the railways and all other transportation agencies is one of the major planks in the platform of the Labor party which was victorious in the recent election. The party leaders, so far, however, appear to be approaching transportation nationalization rather gingerly. The Trades Union Congress—a union organization designed to control the Labor party in much the same manner that Sidney Hillman's P.A.C. organization over here directs the activities of the New Dealers—has recently come forward with a tentative plan for the socialization of all transportation enterprise, by giving security holders government bonds in exchange for their present holdings. Just what ratio the bonds would bear to existing securities has not, of course, been determined as yet.

The British electorate does not appear to be strongly determined toward such a revolutionary step as nationalization of the railways—a recent public opinion poll having shown only a bare majority as insistent upon the change. On the other hand, private enterprise cannot continue indefinitely in the transportation business, regardless of its favor or disfavor in public opinion, if it is denied an opportunity to earn reasonably attractive and dependable interest and dividends.

A writer in the authoriative "Railway Gazette" (London) concludes that the recent wage increase "spells the end of private ownership of British railways, and marks the coming of an era when the lines will be a burden on the taxpayer"; and he reaches this conclusion without regard to any deliberate choice of that objective which Parliament may make. It thus appears that all the skill and ingenuity of British railway management, which gave such a good account of itself during the war, will have to be exerted if the railways are to be saved as a part of private enterprise. The same observation could be made regarding American railway management—although difficulties over here have not yet become quite so obvious and acute as those across the water.

Commercial Standards For Hardware and Tools

Among the many interesting sidelights on essential war-time production is the part that standardization and simplification practices played in the manufacture of hardware and small tools. For, despite acute shortages of critical materials, despite the fact that many hardware and small tool plants were converted to the production of other urgently needed items, heavy military and civilian demands were met by increased efficiency and the full utilization of the remaining plants. These results were attained by drastically restricting the number of sizes and styles of products and by concentrating on the manufacture of the most essential items, for in the hardware industry alone approximately 50 per cent of all production facilities were converted to other war work.

The heavy buying of marine joiner hardware by the Navy and the Maritime Commission created critical shortages for new shipbuilding, ship repairs and conversion work, but hardware output was stepped up sufficiently through standardization to meet war demands. Simplification of builders' hardware reduced types, styles, sizes and finishes by 80 per cent and resulted in annual savings of 17,000,000 lb. of copper base alloy in addition to other critical materials.

Although the requirements of the railways, mines, farms, the lumber industry and other war-supporting activities sky-rocketed during the war to add to the tremendous demands of our military forces for hardware and tools, it was through the cooperation of industry advisory committees, the National Bureau of Standards, and representatives of the W. P. B. that simplified schedules were prepared to meet the emergency.

Among the items controlled were shovels, scoops, and telegraph spoons; axes, hatchets, adzes and hammers; manually operated saws; heavy forged tools; forks, rakes and hoes; wheelbarrows and wood-boring bits. It was largely through such efforts that the number of types and sizes of tackle blocks, for instance, was reduced from 2,800 to 393. It was through rigid control of individual plants that it was possible for industry to supply the huge military requirements for

steel wool, key blanks, hose couplings and electric soldering irons. Standardization and simplification practices were applied to 1,200 firms whose annual production of hardware and small tools amounted to $415,000,000, exclusive of ordnance items, in 1944.

Granted that many of these simplified schedules were adopted only as emergency measures to be discarded when they had served their purpose, this broad application of standardization and simplification points to greater efficiency and lower costs of production. Many of these advantages will be retained. It behooves railway procurement officers to study commercial standards for hardware and hand tools and compare them with railway specifications, because the chances are that, regardless of whether the items are to be used in Maine or Texas, commercial standards will furnish more efficient and economical products.

Rip Tracks Should Be Improved

Many changes will be required to enable the railroads to operate the fast reliable freight service which all concede will be needed if they are to compete successfully for the traffic which is also coveted by highway transport agencies and the airlines. One which is seldom mentioned is the provision of car repair facilities so located, laid out and equipped as to insure that cars needing repairs en route will be rolling again in the minimum possible time. Car set-outs now cause, on an average, a delay of about 24 hours before movement toward destination is resumed. Not all of this delay is attributable to the time required for repairs, but any reduction in that time makes possible the earlier placement of a car in an outgoing train.

It is true generally that, even at main freight yards and at points of heavy interchange, car repair facilities today are little different from those of twenty or more years ago. Many such points still lack high-speed, high-capacity jacks, modern material-handling equipment, and concrete or other hard-surfaced runways. Track layouts to get cars onto and off the repair tracks more frequently resemble a maze than a well-engineered attempt to save time in car movements. Even one of the most-recently completed large facilities is dead-ended; additional shifting movements, time loss and inconvenience are inevitable results.

During the war "loadeds" were pretty generally regarded as "hot stuff"; it will be a good thing if this attitude is continued now that competitors are once again in a position to bid for an increasing share of a decreasing freight traffic. If a trucking company regularly delayed shipments for 24 hours or more because of flat tires, freight traffic solicitors for competitive means of transport would have an easy time. While the situation is not directly comparable (trucks can carry spares and change tires almost anywhere), it is still true that loaded freight cars, representing two or more truckloads of goods, are delayed regularly for as much as a day for a needed change of wheels. Other repairs and adjustments which necessitate cutting cars out of trains result in similar delays.

Open-end repair tracks that are so located with reference to train yards that cars can be shifted in for repairs and moved out with minimum delay when needed work is completed will contribute much in enabling the railroads to compete to best advantage for freight traffic. The fact that, in themselves, such facilities would be "self-liquidating" because of lowered unit costs for repairs makes a virtue of a necessity.

Machines for Cribbing

Probably one of the most difficult and laborious tasks falling to the lot of the track maintenance forces is that of "cribbing" or "skeletonizing" track, that is, removing the ballast from between the ties either to clean it or to get rid of it so that new, free-draining ballast can be applied. The arduous nature of this job arises largely from the fact that the necessity for cribbing occurs only after the ballast has become badly fouled and highly compacted, in which condition it will generally yield to nothing less than some form of extreme force. When done manually, therefore, cribbing is an onerous and costly operation.

This being so, it has long been evident that the successful application of mechanized methods to cribbing operations would yield large savings. But for many years the problem of accomplishing this desirable end was found, figuratively speaking, to be about as unyielding as the ballast in a hard-packed crib. Thus, while the mechanization of other track-maintenance operations has gone forward rapidly, the work of cribbing track has remained to a large degree a pick-and-shovel assignment, with the result that, because of its cost, it has been avoided wherever possible.

However, since many track men are convinced that the cribbing of track, either in preparation for reballasting or to permit the foul crib ballast to be cleaned, is a necessary concomitant of any sound maintenance policy, the attack on the problem of mechanizing this operation has been unremitting, and is now producing results. Probably the first important forward step in this direction was the development a number of years ago of a track-mounted machine embodying a series of power-driven shoes, by means of which the ballast is thrown laterally out of the cribs. It is reported that another manufacturer is now developing a cribbing machine, based on a somewhat different principle, that shows promise of being satisfactory.

Now comes the Pere Marquette with a development which is basically an adaptation of modern methods of moving earth. Its method involves the use of crawler tractors as power units in conjunction with a number of new devices especially designed for loosening and removing the ballast from between the ties. Experience to date with this method points to savings of approximately 50 per cent in the number of man-hours required to skeletonize track.

These developments indicate that the difficult problem of cribbing track will soon join the ranks of other successfully mechanized maintenance of way operations. It may not be long before the cost of skeletonizing can be reduced sufficiently to permit such work to be done wherever it is needed.

C. & O. Rebuilds Its Big Sandy Bridge

Five-span through-truss structure, too light for modern equipment, is reconstructed on original alinement, utilizing the existing masonry piers

In This View, Showing One of the Piers After Recapping, the Span at the Left Has Been Renewed and Work Is in Progress on the One at the Right

TO eliminate severe restrictions on the operation of heavy locomotives and cars over the bridge carrying its double-track main line across the Big Sandy river, the Chesapeake & Ohio has replaced its five-span 977-ft. truss bridge at this location with a new and modern structure. Since the project involved the reconstruction of the bridge on the original alinement, utilizing the existing stone masonry piers, the tops of which were cut down somewhat and recapped with concrete, it was necessary that the project be planned and executed carefully to minimize interference with traffic. Actually, the work was done largely under traffic, with the bridge being taken out of service only for short periods during certain operations. The longest period during which both tracks were out of service was 90 min. This occurred when the truss shoes at the first pier were placed on the falsework. The experience gained during that operation enabled the erecting force to change its methods and reduce the time to 40 min. at the succeeding piers.

The Old Bridge

The double-track main line of the Chesapeake & Ohio crosses the Big Sandy river at a point between Catlettsburg, Ky., on the west and Kenova, W. Va., on the east, the boundary line between the two states being located in the river near its west bank. The old bridge across the river, which was constructed in 1894, consisted of five through-type pin-connected Pratt trusses, supported on piers of sandstone masonry construction. Three of the spans were each 219 ft. long between the centers of the end pins, while the other two spans, one at each end, were somewhat shorter, being about 153 ft. 6 in. in length, measured along the center line of the bridge between the centers of the supporting piers. The three longer spans had curved top chords, while in the shorter spans the chords were parallel. At this location the river lies in a north-south direction, with the bridge crossing it on a skew of 30 deg., all the piers being placed at this angle except those at the ends of the bridge, which are square with the tracks.

Flanking the bridge at each end is a viaduct approach of steel construction, the viaduct at the east end being 252 ft. in length and that at the west end being 1,134 ft. long. In connection

Showing the Nature of the Falsework Used Under the Long Spans. Note Cantilever Beams Employed in Erecting the Falsework Girders

with the work of reconstructing the main portion of the bridge the viaduct approaches are being reinforced as necessary to place them on a comparable basis with the main spans.

As designed originally the old truss bridge incorporated provision for carrying highway traffic on decks to be built outside the trusses on both sides of the structure. The highway deck on the north side of the bridge was not built, but the one on the south side was erected at the time the bridge was constructed, and served as a toll bridge for highway traffic until 1930, when it was removed.

An Operating Handicap

In recent years, the old bridge across the Big Sandy, which had originally been designed for a loading approximately equivalent to Cooper's E-30, had become one of the oldest and lightest bridges on the main line of the C. & O., with the result that it was seriously handicapping the railway in its efforts to handle a volume of traffic that quickly reached record proportions following the outbreak of war. The reasons for this are readily apparent when it is realized that some of the heavier engines on the road could not be operated over the bridge at all, while there were others, although somewhat lighter, that could not be double-headed over the structure. In addition, when cars weighing 125 tons or more were incorporated in trains destined for movement over the bridge, it was necessary to separate them from each other or from the locomotive by at least two cars weighing not more than 100 tons each. Also banned from operation over the bridge were certain of the heavier engine tenders in use on this road.

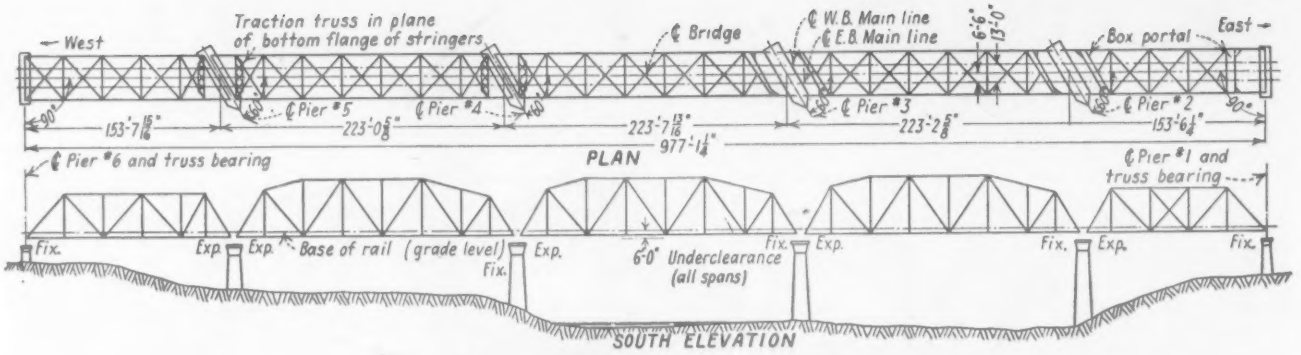
On the basis of these considerations, plus the fact that the bridge constitutes a link in an important main line carrying vital war traffic, the railroad was able to obtain the necessary authority from government agencies to reconstruct the main portion of the bridge. This work was started in July, 1943, and was completed early this year. Various schemes or procedures for reconstructing the bridge were investigated, including the construction of a new bridge on a different alinement, but these were all discarded in favor of a plan to replace the bridge on the existing alinement with a new superstructure supported on the existing piers, which were to be altered and repaired as necessary. Hence, the new bridge has five spans of approximately the same lengths as those of the old structure. Designed to carry Cooper's E-72 loading, the new bridge consists of riveted Warren trusses with verticals, the three long spans, as in the old structure, having curved top chords, while the shorter end spans have parallel chords. A feature of the trusses is that wrought iron blast plates, 48 in. wide and ⅜ in. thick, are provided over each track at all the sway frames and portals, extending 6 in. beyond the edges of each member.

Changes in Piers

In the old bridge the trusses were placed 30 ft. center-to-center, but in the new structure the trusses are 33 ft. apart, thereby making it possible to increase the track centers from 13 ft. to 14 ft. if it should be desired to do this. Because of the larger bearing shoes required for the new trusses, and the wider spacing between them, it was necessary to carry out alterations at the tops of the piers for the purpose of making them wider and longer. At the same time, to allow sufficient space to accommodate the falsework beams that were to be used to support the ends of the trusses while work on the piers was under way, it was necessary to reduce the elevation of the tops of the piers somewhat. Hence, when the piers had been cut down as necessary they were provided with concrete caps of the required dimensions. In the old structure the distance from the base of rail to the tops of the intermediate piers was 7 ft. 3 in., while in the new structure this distance is 10 ft. 7 in. At the end piers the original distance of 6 ft. 3 in. between the base of rail and the tops of the piers was increased to 9 ft. 3 in.

Nature of Falsework

In carrying out the work of renewing the superstructure of the five spans, the procedure was to block up the deck of each span on falsework while the existing trusses and their floor systems were removed and replaced with the new construction. In this way, beginning at the west end of the structure, the work was carried out on one span at a time. In the system of falsework that was devised for this project towers of timber-frame construction were used extensively, the number of bents in each tower and other construction details being determined by the loads to be carried. For the most part the falsework towers were supported on timber-pile foundations. A feature of the



Elevation and Plan of Reconstructed Bridge

towers was that they were so designed and constructed that when the erection of a particular span had been completed the towers could be dismantled and reassembled under the next succeeding span.

When reconstructing the end spans of the bridge the falsework throughout the lengths of these spans consisted of the timber towers supporting a system of longitudinal wide-flange beams on which the stringers and chords of the trusses were supported by means of timber blocking consisting of 12-in. by 12-in. pieces, which were assembled in groups of four to form members 24 in. square in cross section. The falsework used for the long spans was similar to that employed under the end spans, except that for an intermediate distance of 100 ft. in these spans the blocking was supported on a series of deck plate-girders spanning between the timber towers. For this purpose six 100-ft. deck plate-girders were used. These girders, complete with the necessary bracing for three complete girder spans, were purchased new for use on this project with the thought that they would be available afterward for installation wherever needed.

Erecting Falsework Girders

An interesting aspect of the work was the manner in which the falsework girders were raised into position under the deck of the bridge. In this operation the girders were first moved into place underneath the particular span and were then raised into position on the timber towers by means of hoisting engines, with the lift lines extending through sheaves hung from beams cantilevered from the tops of the old trusses. Two of the long spans are over water, and to get the falsework girders into the proper position under these spans they were first moved to the river bank on skid rails and then loaded onto barges, from which they were raised to the proper elevation in the manner described above. The third long span is located over dry land and here the falsework girders were raised directly from the ground.

Another aspect of the work worthy of mention has to do with the bracing of the foundation piles for the falsework towers that were situated in the river. Since the sub-soil conditions in the vicinity of the bridge embody a relatively shallow layer of soft material over-lying bedrock, it was considered desirable to provide the foundation piles with sway bracing to a depth somewhat below the existing water level. To this end the co-operation of government authorities was secured to lower the water level somewhat by opening the flood gates of a nearby dam.

Supporting the End Bearings

One of the most difficult phases of the project was the problem of supporting the ends of adjoining trusses at each pier while the top of the pier was being cut down to permit falsework beams to be installed. When undertaking this work at one of the piers, it was first necessary to have a falsework tower in place on each side of the pier. The procedure involved in transferring the load of the trusses from the piers to falsework beams was then carried out separately at the truss bearings at each end of the pier. This procedure involved the use of two needle beams, each consisting of a 36-in. 150-lb. wide-flange beam, spanning between the falsework towers and supported on each of them by a jacking arrangement incorporating a 100-ton jack under each end of each needle beam. The two needle beams in each set-up were placed 7 ft. 2¾ in. apart and were so located that the end posts of the adjoining trusses were between them. Directly above the pin in each end post a smaller beam was placed to span between the two needle beams and a number of slings, in the form of U-shaped steel rods, were placed around the end pin, with their threaded upper ends extending through a yoke arrangement on top of the cross beam.

With the ends of the trusses supported in this manner the bridge was taken out of service for a short time (the supporting arrangement being designed to carry only the dead load) while the top of the pier at the location of the truss bearings was cut down to permit the insertion of a series of falsework beams, spanning between the two timber towers, on which the truss bearings were blocked up while the work of recapping the pier was carried out. This falsework consisted of six 36-in. 230-lb. wide-flange beams. When this procedure had been completed under the truss bearings at one end of the pier, it was repeated at the other end and, in addition, a series of falsework in the form of 36-in. 250-lb. wide-flange beams was installed at intermediate points between the truss bearings, on which the stringers were blocked up.

With the ends of the trusses at each pier supported on falsework in the manner described, it was possible to proceed with the work of cutting down the pier to the desired level and of applying the new concrete cap. In this work transit-mixed concrete was used, which was dumped from the trucks into a pumpcrete machine and then pumped into the forms through an 8-in. line.

Erecting the Superstructure

When undertaking the work of changing out the superstructure of a particular span, the first step, after the falsework had been installed and the existing structure blocked up on it, was to remove the old trusses, after which the new floor beams were inserted in their proper positions through gaps cut through the old stringers. The new stringers for the particular span were then installed in a progressive operation under one track at a time, and in this operation the ties were renewed out-of-face as the work proceeded.

In erecting the new trusses the bottom chords were first placed and connected to the floor beams which had been jacked up to the proper camber. After the lateral bracing had been installed in the floor system the work of erecting the remaining parts of the trusses was undertaken and completed, this being done in such a manner as to occupy only one track at a time with the erection equipment and cars of material, leaving the other one available for handling traffic.

SAFETY APPEAL.—Robert Scott, director of safety and insurance, Atlantic Coast Line, recently posted a letter to all employees stating "our safety record since Pearl Harbor is not a source of pride to any of us." Comparing the year 1940 with its casualty ratio of 3.33, and the first eight months of 1945, with a 9.17 ratio, Mr. Scott pointed out that "nothing short of right thinking and a determined will to perform each task safely will bring about improvement."

Radio for Western Union Trunk Lines

2,500 miles of pole line and 54,000 miles of wire to be replaced by beamed radio which can transmit 1,080 simultaneous messages — Railroads to acquire pole lines

The Western Union Building at 60 Hudson Street, New York, Which Will Be the Eastern Terminus of the Radio Telegraph Network—Arrow Indicates the Radio Reflectors on the Roof

THE Western Union Telegraph Company has laid plans, to be carried out during the next seven years, to replace major trunk wire lines with super-high-frequency radio relay systems. The use of radio will greatly increase the number of available channels, and the equipment used will be practically storm proof. The system is especially suited to heavy-traffic circuits and its extension to branch and light-traffic lines is not indicated by economics. Branches will probably continue to use the existing wire lines.

Existing Contracts

All existing contracts concerning wire lines will be carried out to conclusion and pole lines on railroad property will be offered to railroads under favorable terms. It is expected that in some cases this should provide the railroads with an opportunity to improve their own communication circuits at a low cost. A few railroads have already reached agreements on the transfer of pole line ownership with the Western Union.

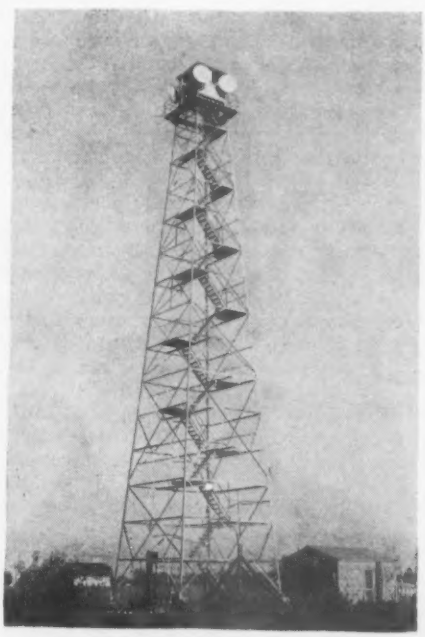
Experiments establishing the effectiveness of the system have been concluded and application has been made to the Federal Communications Commission for the allocation of channels in the 4070- to 4230-megacycle range of the radio spectrum.

Radio impulses using about one-tenth of a watt of energy will be beamed from one relay station to another by means of reflectors four feet in diameter. The stations will be placed at high locations, and will be within visual range of each other, average distances between stations being about 30 miles. The beam from a reflector will expand from four feet to about a mile at the next point of reception and will be relayed from that point to the one beyond by means of a receiver-transmitter and another reflector.

Advantages of Radio

Circuit interruptions due to storms, falling trees and electrical disturbances should be materially reduced. Another advantage is that a radio relay system may be installed more quickly than a wire line, and can be moved with greater ease from one location to that of another.

In its first major move to use radio relays, the telegraph company has applied to the Federal Communications Commission for permission to establish experimental radio relay systems between New York and Washington, New



Experimental Radio Relay Tower—Permanent Structures Will Be Similar But of More Rugged Construction

H. P. Corwith, Assistant Chief Engineer (Research), Western Union Telegraph Company, Examining One of the Reflectors on the 24-Story Western Union Building in New York

York and Pittsburgh and Washington and Pittsburgh, and a secondary system between New York and Philadelphia.

This first step, a part of Western Union's extensive post-war improvement program, is known as "The New York-Washington-Pittsburgh Triangle." Its establishment in time will permit the removal of approximately 2,500 miles of pole lines, with some 54,000 miles of wires and 180 miles of aerial and underground cable.

The system planned for the "Triangle" would provide radio beams in each direction. Each beam could be equipped to provide 270 multiplex circuits, so that 1,080 operators could transmit telegrams simultaneously over a beam in one direction, but there is no present likelihood that traffic between any two cities would require such a large capacity. The radio relay facilities, however, may be used for various kinds of circuits, including multiplex, facsimile and teleprinter.

The new system is expected to improve the quality, dependability and speed of service provided to the public. It also will make possible substantial savings in the present costs of maintaining and replacing pole lines.

Terminal Stations

Establishment of the "Triangle" involves the installation of terminal equipment in the four cities and the construction of 21 intermediate relays in towers on mountains or hills ranging from 14 to 54 miles apart and having elevations up to 2,900 feet. The towers will be from 60 to 120 feet in height. The sites for the relay stations have been acquired.

The 24-story Western Union building at 60 Hudson street will serve as the New York tower, with transmitting and receiving equipment on the roof. A 90-ft. tower will be constructed on 41st street near Wisconsin avenue in Washington, D. C., and linked with the company's main operating room in that city. A tower will be erected on a bluff overlooking Pittsburgh from which radio circuits will be operated to equipment on the roof of the Chamber of Commerce building which houses the main operating rooms there. In Philadelphia, the roof of the Market Street National Bank building will be used.

Workability Established

On top of the other radio relay towers, which will be square, will be cabins 12 by 12 feet in size in which the reflctors will be mounted for the purpose of directing the radio beams. Most of the equipment, however, will be housed in a building at the base of the tower. Normally the relay towers will be unattended, and will be surrounded by high fences.

An experimental radio relay circuit was established between New York and Philadelphia last spring in cooperation with the Radio Corporation of America and with the sanction of the Federal Communications Commission. It has been successful in meeting all of the tests imposed, it was stated, and provided the experience required as a foundation for the proposed nation-wide radio relay system. Under an agreement with R. C. A., the telegraph company has the right to use all inventions of R. C. A., and those under which R. C. A. has the right to grant licenses. The experimental circuit is in operation between the Western Union buildings in New York and Philadelphia, with intermediate relay towers at New Brunswick and Bordentown, N. J.

Fraser Becomes President of M-K-T

Complete reorganization of executive personnel has been effected within past year

Donald V. Fraser

BRINGING to a close a complete reorganization of the executive staff of the Missouri-Kansas-Texas, Donald V. Fraser, former vice-president, has been elected president and a director, with headquarters at St. Louis, Mo. At the same time the board of directors announced the election of J. F. Hennessey, Jr., as vice-president, traffic, to succeed J. F. Garvin, who has retired, and the promotion of J. T. Mahaney to comptroller, succeeding J. G. Livengood, who has also retired. All of these new promotions were reported in the *Railway Age* of October 27.

Other executive staff changes which were included during the past year in the reorganization of the railroad's top personnel were as follows:

On May 1 Horace M. Warden, chief mechanical officer, was promoted to vice-president and general manager, with headquarters at Dallas, Tex., succeeding the late Frank W. Grace, and on October 16 Thomas H. Evans, shop superintendent at Waco, Tex., was named to succeed Mr. Warden as chief mechanical officer.

Matthew S. Sloan, president and chairman of the board, who had headed the Katy for 11 years, died on June 14, and on June 26 Lewis E. Pierson of New York was elected chairman of the board. He in turn was succeeded in that position on September 29 by Raymond J. Morfa of Cleveland, Ohio. An article covering Mr. Morfa's career appeared in the *Railway Age* of October 13.

Mr. Garvin, vice-president, traffic, since 1935, was elected a member of the board of directors on July 28, and his jurisdiction was extended to cover the M-K-T of Texas at that time.

Student of Railroad Economics

At the age of 49 years, Mr. Fraser, who is a close student of railroad economics, takes the reins of the Missouri-Kansas-Texas as one of the youngest contemporary railway presidents. He was born at St. Louis in 1896 and began his railroad career in 1916 in the purchasing department of the Katy. From the beginning he exhibited a marked talent for organization and a desire to see every job well done. These traits, coupled with an ability to learn rapidly and absorb the many intricate details involved in the various departments of a railroad, won him a number of early promotions until, in 1918, he was chosen during World War I to serve as a member of the purchasing committee of the United States Railroad Administration.

When the war ended Mr. Fraser returned to the Katy, and a short time later was advanced to assistant purchasing agent, holding that position until January, 1931, when he was promoted to office manager of the executive department. In June, 1945, he became executive assistant to the chairman of the board and president at St. Louis and three months later, when Mr. Morfa became chairman of the board, Mr. Fraser was elected a vice-president.

Photographs as well as biographical sketches of Messrs. Hennessey, Mahaney and Livengood appear elsewhere in these columns, while a photograph and sketch of Mr. Garvin appeared on page 193 of the *Railway Age* of July 28.

A resume of operating and financial results of the Katy was published in the June 23 issue of *Railway Age*, in an article announcing the death of Mr. Sloan.

Visual Education for Freight Handlers

Accurate loading and careful stowing being so important to dependable l.c.l. handling, Army developed effective posters to instill precision in performance

By CAPT. W. H. SCHMIDT, Jr.
Traffic Control Division, T. C.

THE Army-Navy l.c.l. consolidating stations had a problem in endeavoring to maximize the accuracy and care with which freight handlers at these stations did their work, since many of these employees were new to railroad operations and were unfamiliar with the importance which precision in their performance bore to dependable and expeditious movement of military freight.

In the effort to encourage these employees to render the best service of which they were capable, the chief of the branch of the traffic control division of the Army's transportation corps which was charged with technical supervision of these stations sought to locate educational material to place in the hands of these employees. Visual

Fig. 1—A Safety Hint

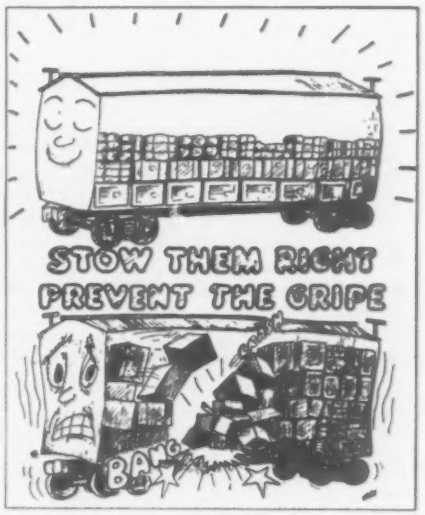


Fig. 2—Good and Bad Stowing

Fig. 3—Illustrating the Virtue of Order

matter—rather than the printed word—was desirable, because many of these employees did not have much of a command of the English language.

Solicited Army-Navy Aid

Unable to locate existing educational literature of the kind required, this officer invited the officers of the Army-Navy consolidating stations to put their heads together and execute ideas for visual training aids, using whatever amateur draftsmanship lay at hand. A part of the results of this action is evidenced in the illustrations herewith. Posters Nos. 1, 2 and 3 are self-explanatory. No. 4, it will be noted, dramatizes the effect of failure to follow the veri-check balloting system.

The latter is the procedure for checking the loading of miscellaneous freight in consolidated cars, which comprises, among other things, an inspection of carbon copies of the veri-check within the car to insure that it is properly loaded. The "pay-off" on the veri-check system is that, in spite of inexperienced labor and heavy traffic, the Army-Navy consolidating stations, in September, 1945, were guilty of but 0.14 misloads per car.

Fig. 4—Misloaded Freight Couldn't Speed Victory

The average A-N car contains 400 separate pieces. Anyone who has dealt with consolidation of miscellaneous shipments will recognize that 0.14 misloads per car is a good record for such times as these.

The posters have been so successful that they have been adopted by the training division of the office of the Chief of Transportation for use at depots and other points where platform freight handling is important.

* * * *

Northern Pacific Track Crews Inserting New Ties in Main Line in Western Montana

More Detailed Fuel Statistics Advocated

The Railway Fuel and Traveling Engineers' Committee on Fuel Records and Statistics recommends further refinements of the fuel allocations on the OS forms

THE tabulation of helper fuel by kinds of trains in the Interstate Commerce Commission Statistical Form OS-E is the recommendation of the Committee on Fuel Records and Statistics of the Railway Fuel and Traveling Engineers' Association * in its 1945 report prepared for inclusion in the year book of the association. The committee reviews recent changes in the form OS reports which segregate train-miles on the train performance forms by types of principal locomotives and motor cars, and the fuel charged to locomotives by types of fuel or power consumed as a background for this further recommendation. The report proceeds as follows:

In 1941 a committee was appointed to "take appropriate action to determine the possibility of obtaining the publication of more detailed fuel statistical reports for Class I railways than have been made available for general distribution." A progress report of this Committee was submitted to the full membership of the Railway Fuel and Traveling Engineers' Association. As a result of the work of this committee and excellent co-operation on the part of the A. A. R. Accounting Division Committee on Statistics certain additions were made on Forms OS-A (freight-train performance), OS-B (passenger-train performance) and OS-E (fuel and power for locomotives and rail motor cars), effective January 1, 1945. The following is a tabulation of these additions.

Additions to Form OS-A[1]

2—TRAIN MILES:
- 2-01—Steam-locomotive-propelled trains
- 2-02—Diesel-electric-locomotive-propelled trains
- 2-03—Electric-locomotive-propelled trains
- 2-04—Other locomotive-propelled trains
- 2-05—Total locomotive-propelled trains

3—ROAD LOCOMOTIVE-MILES:
- 3-06—Total, Diesel-electric only
- 3-10—Diesel-electric locomotives
- 3-14—Miles at initial and final terminals included in total (item 3-13)

TRAIN-SWITCHING:

5—GROSS TON-MILES OF ROAD LOCOMOTIVES AND TENDERS (THOUSANDS):
- 5-03—Diesel-electric locomotives

6—GROSS TON-MILES OF CARS, CONTENTS AND CABOOSES (THOUSANDS):
- 6-03—Total in Diesel-electric locomotive trains

8—TRAIN-HOURS (INCLUDING TRAIN-SWITCHING HOURS AT WAY STATIONS):
- 8-01—Steam-locomotive-propelled trains
- 8-02—Diesel-electric-locomotive-propelled trains
- 8-03—Electric-locomotive-propelled trains
- 8-04—Other locomotive-propelled trains
- 8-05—Motor-car propelled trains

Additions to Form OS-B[2]

2—TRAIN-MILES:
- 2-01—Steam-locomotive-propelled trains
- 2-02—Diesel-electric-locomotive-propelled trains
- 2-03—Electric-locomotive-propelled trains
- 2-04—Other locomotive-propelled trains

3—ROAD MOTIVE-POWER MILES:

LOCOMOTIVE-MILES:
- 3-06—Total, Diesel-electric only
- 3-08—Total, other (Diesel and gasoline motor and gasoline electric)
- 3-10—Train switching miles, Diesel-electric locomotives only
- 3-12—Train switching miles, other locomotives

5—TRAIN-HOURS:
- 5-01—Steam-locomotive-propelled trains
- 5-02—Diesel-electric-locomotive-propelled trains
- 5-03—Electric-locomotive-propelled trains
- 5-04—Other locomotive-propelled trains

Additions to Form OS-E[3]

2—QUANTITIES OF FUEL AND POWER CHARGED TO YARD AND TRAIN ACCOUNTS:

QUANTITIES CONSUMED IN ROAD FREIGHT SERVICE (ACCOUNTS 394, 395 AND 396):
- 2-10—Diesel fuel (gallons)
- 2-12—Gasoline (gallons)

QUANTITIES CONSUMED IN ROAD PASSENGER SERVICE (ACCOUNTS 394, 395 AND 396):
- 2-22—Total fuel by motor-car trains (equated net tons coal equivalent)

8—FUEL AND POWER CONSUMED PER 1,000 GROSS TON-MILES (INCLUDING LOCOMOTIVES AND TENDERS)—ROAD FREIGHT SERVICE:
- 8-03—Gallons of Diesel fuel (Diesel locomotives) (2-10 ÷ [5-03 OS-A + 6-03 OS-3])

9—FUEL AND POWER CONSUMED PER PASSENGER-TRAIN CAR-MILE—ROAD PASSENGER SERVICE:
- 9-05—Equated pounds of fuel (motor-car trains) (2-22 × 2,000 ÷ 4-21 OS-B)

The additions to Forms OS-A and OS-B listed make possible the compilation of statistics for the differently propelled trains of such items as:

X1—Passenger car-miles per passenger train-mile; i. e., average cars per train

X2—Gross ton-miles per freight train-mile; i. e., average gross tons per train

X3—Gross ton-miles per freight train-hour; i. e., average ton-miles per hour

X4—Freight train-miles per freight train-hour; i. e., average speed in m.p.h.

All of these are extremely useful in the analysis of the relative efficiency of the differently propelled trains.

Neither Form OS-A nor Form OS-B segregates the locomotive-miles (principal and helper) according to the differently propelled trains. For this reason the following equally important items cannot be computed:

X5—Locomotive miles (principal and helper)

X6—Gross ton-miles (excluding the locomotives and tenders) per locomotive-mile; i. e., the average gross tons per locomotive.

While items X1 to X4 can be computed from the information now shown on Forms OS-A and OS-B, there is no provision made on either form to show this information.

OS-E of Limited Use

As to Form OS-E, the quantities of fuel and power, item 2 (2-01 to 2-24 both inclusive), are not so segregated as to permit of computing under averages (items 7, 8 and 9) according to the differently propelled trains. In this connection, even with the additions to Forms OS-A, OS-B and OS-E, the usefulness of Form OS-E is largely restricted for the following reasons:

* The committee members are E. E. Ramey (chairman), superintendent fuel and locomotive performance, N. Y. C.; P. E. Buettell, fuel supervisor, C. M. St. P. & P.; J. G. Crawford, fuel engineer, C. B. & Q.; J. R. Jackson, engineer tests, Mo. Pac.; H. Morris, superintendent fuel and locomotive performance, C. of N. J.; E. G. Sanders, fuel conservation engineer, A. T. & S. F.; W. R. Sugg, general supervisor air brakes, Mo. Pac.; W. J. Tapp, superintendent fuel conservation, D. & R. G. W.; R. J. Tucker, assistant to fuel supervisor, C. & O.

[1] Freight Train Performance of Class I Steam Railways in the United States. Statement No. M-211 (OS-A). Issued by the Interstate Commerce Commission, Bureau of Transport Economics and Statistics.

[2] Passenger Train Performance of Class I Steam Railways in the United States. Statement No. M-213 (OS-B). Issued by the Interstate Commerce Commission, Bureau of Transport Economics and Statistics.

[3] Fuel and Power for Locomotives and Rail Motor Cars of Class I Steam Railways in the United States. Statement No. M-230 (OS-E). Issued by the Interstate Commerce Commission, Bureau of Transport Economics and Statistics.

On Form OS-A, gross ton-miles (items 5-01, 5-02, 5-03, 5-04 and 5-05) and on Form OS-B, passenger train car-miles (items 4-09, 4-10, 4-11, 4-12 and 4-13) are segregated as between *trains* of different propulsion, according to the kind of fuel used by the principal locomotive, but on Form OS-E (Fuel and Power for Locomotives) the fuel is separated by locomotives only and, therefore, it makes no provision for trains that are rather common at present; i. e., where Diesel trains have steam locomotives assisting or doubleheading. This, of course, results in distorted figures in the averages on Form OS-E (items 8-03 and 9-03, for example). In this connection it is pertinent to quote remarks on page 105, Proceedings of 1943:

"Therefore, it is obvious that there is no congruous relationship between the monthly total of passenger-train car mileages reported for a given *kind of train* and the monthly total fuel reported for a given *kind of locomotive* in case the principal locomotives are assisted by helping or doubleheading with locomotives using a different kind of fuel from that used by the principal locomotives. For example, the passenger-train car-miles made by Diesel locomotives *trains* is reported on Form OS-B (item 4-11) and the fuel consumed by Diesel locomotives is reported on Form OS-E, item 2-17 (new number revision of January 1, 1945) but when coal-burning or oil-burning steam locomotives are used to assist the Diesel locomotives by helping or doubleheading these trains, the fuel used by such locomotive is shown on Form OS-E, items 2-15 or 2-16 (oil or coal, respectively), or in case of a Diesel helper under item 2-17. Then, when the unit fuel consumption of Diesel locomotives is derived, as reported on Form OS-E under item 9-03, only the Diesel fuel oil reported on Form OS-E, item 2-17, is considered and the fuel used by the steam locomotives assisting the Diesel locomotive trains serves only to inflate the value of the unit fuel consumption of the steam locomotives as reported on Form OS-E, items 9-01 and 9-02."

The additions made on Forms OS effective January 1, 1945, do *not* correct the conditions quoted above. In other words, notwithstanding the separations made on Forms OS-A and OS-B for items of Passenger-Train Car-Miles and Gross Ton-Miles, as between *Diesel-propelled* (principal locomotive) and steam-propelled (principal locomotive), there is no provision made on Form OS-E to set the fuel up in the same manner, so that the road and helper fuel will follow the ton-miles, or car-miles derived fro mthe consumption of this combined road and helper fuel.

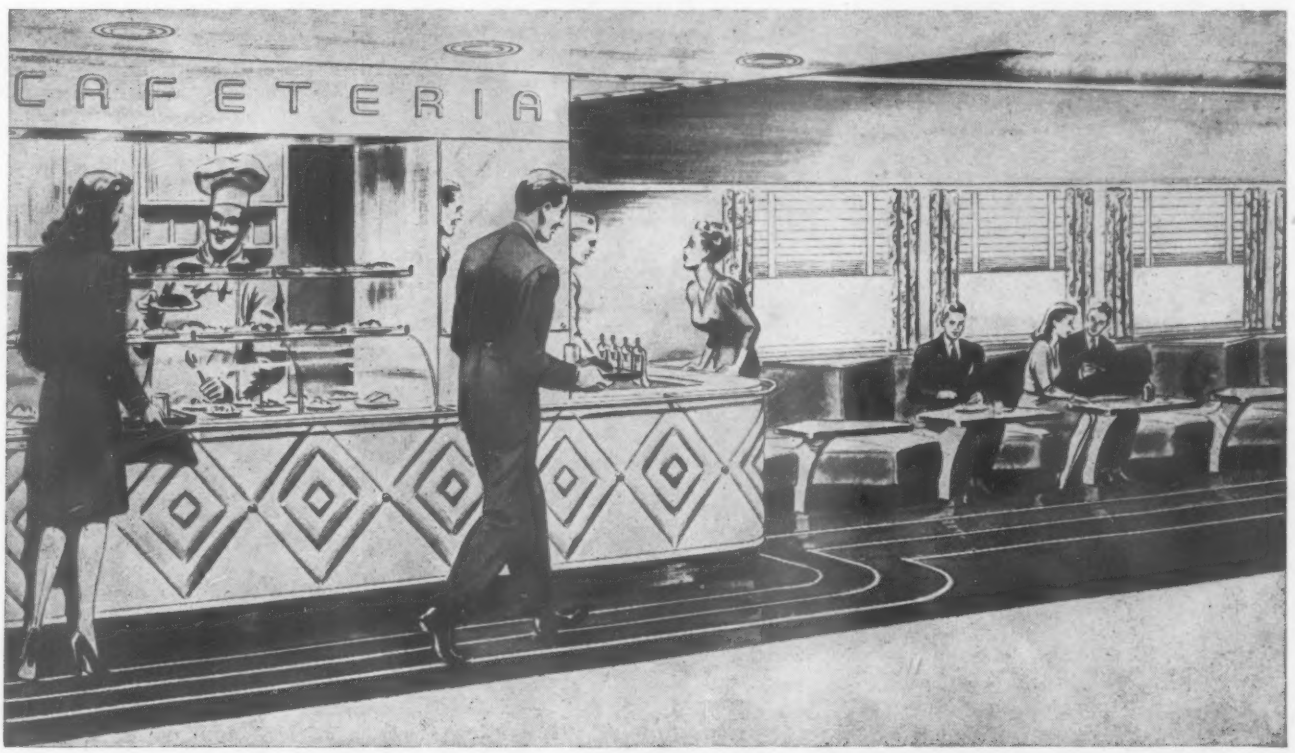
The progressive increase in the number of Diesel locomotives on some roads in the United States emphasizes the importance of statistics that will convey a picture of the erlative fuel performance of the Diesel-propelled trains as compared with trains using fuel other than Diesel oil. Steam helpers are common on Diesel-propelled trains. It is evident, therefore, that a tabulation of the helper fuel by *kinds of trains* is necessary to produce fuel service units that will be comparable. It is strongly recommended that consideration be given to the revision of Form OS-E to provide for setting up the helper coal figures by *kinds of trains* so that comparable figures will be available as between railroads.

Example of Mixed Power

On the Baltimore & Ohio in July, 1945, 31 per cent of the passenger-train car-miles were produced by Diesel-propelled trains. Of the fuel used by Diesel-propelled trains 9.7 per cent was used by steam helpers. In freight service, of the total gross ton-miles, 2.7 per cent was produced by Diesel-propelled trains and, of the fuel used by Diesel-propelled trains, 11.3 per cent was used by steam helpers. While there were no helpers in yard service, it is interesting to note that of the four terminals that use Diesel locomotives 97.6 per cent of the yard-engine hours was produced by Diesel switchers. This figure, however, represents but 16.6 per cent of the yard engine-hours produced on the B. & O.

An interesting feature of this report, Form F-1-D, is the unit consumption in equivalent pounds of coal per passenger-train car-mile per 1,000 gross ton-miles and per yard-engine hour, separated as between Diesel and steam-propelled trains. It is true, however, generally speaking that Diesel locomotives are used on trains that produce lower fuel service units.

* * * *



Pullman-Standard's Quick-Service Cafeteria Car

A new, high-capacity cafeteria car, capable of seating 56 persons, has been designed by the Pullman-Standard Car Manufacturing Company to meet the present heavy demand made upon railroad dining car service. The car is so arranged that it is capable of serving two to three times as many passengers as the standard diner. It is designed on the modern principle of diagonal seating, and is equipped with a soda fountain.

Public Thinks Railroad Situation Okay

Railroads highly popular, but this can't help much in ending competitive inequalities since public believes railroads get more government help than their rivals do

THE railroads are, so far, holding on very well to the highly favorable public opinion they won as a consequence of their superior war-time performance —but there is little disposition on the part of the public to "implement" this favorable opinion into political action of specific benefit to the railroads, because the public doesn't know that the railroads are suffering from any particular handicaps. Such is the central revelation of the 1945 survey of public opinion, made for the Association of American Railroads by the Opinion Research Corporation of Princeton, N. J. Since the present survey is the fifth one to be made, similar studies having been made annually beginning in 1941, the disclosures are not limited to opinion as it now stands, but show trends in popular attitudes over a period of years.

89 Per Cent Favorable

Not unexpectedly, the railroads slipped a little bit in popular esteem from 1944 to 1945, because of the increasing crowding of trains and somewhat greater difficulty in moving the volume of freight traffic. However, the slump was not a bad one; 89 per cent of those with opinions this year saying the railroads have "done a good job" during the war, as compared to 94 per cent in 1944—this year's 89 per cent comparing with 88 per cent in 1943 and 82 per cent in 1942. Back in 1941 only 56 per cent of the people thought the railroads had done a good job in preparation.

The ratio of the public favoring government operation "for the duration of the war" was 24 per cent this year as compared to 15 per cent in 1944, 18 per cent in 1943 and 33 per cent in 1942. In 1941, half of the people questioned favored government operation of the railroads "in the event of war." Despite the past year's growth in sentiment favorable to government operation, it is noteworthy that this opinion is still far less prevalent than it was in the pre-war period. The survey notes also that those who favor government operation are rather passive about it. The respondents were asked: "Are there any kinds of businesses that you think should be owned and operated by the government?" Only 6 per cent of the people named the railroads in answer to this question, and an additional 1 per cent answered, "transportation." By way of comparison—9 per cent of those asked gave "public utilities" as a reply: and an additional 4 per cent mentioned "electric companies."

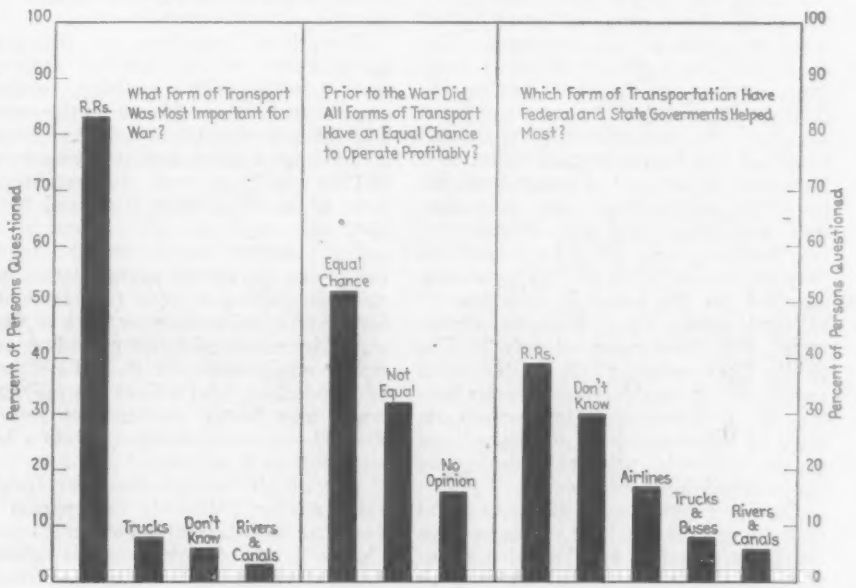
The drift toward acceptance of government operation appears to stem, not from ill-will to the railroads, but from an increasing fear that the railroads would not be able to handle all the traffic offered to them (the sample having been taken before V-J day); and a belief by a substantial minority of Americans that government operation is more efficient under conditions of heavy traffic than is private operation.

The public discloses in overwhelming majority its appreciation of the nation's dependence upon the railroads for war-time transportation, 88 per cent having named the railroads as the most important transportation agency—in contrast to only 9 per cent naming trucks and 3 per cent the inland water carriers. These ratios in 1945 were substantially the same as in 1944 and 1943—and they show a wholesome change in the railroads' favor, when compared to 1941, when only 68 per cent of the respondents chose the railroads as the most important form of transportation—22 per cent naming trucks and 10 per cent the inland waterway carriers.

With all their appreciation of the importance of adequate railroad service and their good-will to the railroads, however, the public does not have the information necessary to enable it to translate its good intentions into a political framework favorable to the successful functioning of the railroads as private enterprise. Stated in simplest terms, which do not exaggerate the detailed facts, *the public just doesn't know that there is such a thing as a "railroad problem."*

Concretely, a majority (62 per cent) of the public, while favoring a "fair basis" of competition among the several agencies of transportation, believes that transportation was already on such a "fair basis" before the war started. As far as government aid to transportation is concerned, 54 per cent of the people actually believe that the railroads have received more of such help than any other form of transportation. This disclosure, hard though it may be to believe, is corroborated by the fact that the 1944 survey showed practically the same ratio of the public as holding this astonishing opinion. Furthermore, the great majority of the public—despite all its good-will to the railroads and its regard of them as the nation's principal reliance for transportation—is in favor of government assistance in the provision by the taxpayers of highways, waterways and airports for the use of railroad competitors; and a smaller majority opposes similar use of public funds for

The Public Appreciates Importance of Strong Railroads but Is Quite Unaware of Inequities Which Weaken Them



subsidizing the construction of railroad facilities. They make this distinction because they believe the railroads "are making plenty of money now" and they regard facilities for other forms of transportation as being useful to the public at large as well as to commercial carriers.

Confident of R.R. Future

The public, in short, wishes the railroads well, but is not disposed to do anything about their competitive handicaps because it does not know that these handicaps exist. Furthermore, a majority of the respondents is quite confident that the railroads are going to do well, traffic-wise, in the years immediately ahead. Three-fifths of those answering expect the railroads in future to do the bulk of the passenger business —as compared to one-fifth who named the airlines and an equal number who named the buses. The ratio of those naming the railroads in answer to this question showed a remarkable increase from 1944 to 1945. Asked which type of freight carrier had the "best chance to haul freight at a profit after the war," 58 per cent of the respondents named the railroads, 27 per cent the trucks, 8 per cent the airlines and 7 per cent the inland water carriers. Public optimism in favor of the airlines' freight-carrying prospects declined rather heavily from 1944 to 1945.

There has been no further decrease in the majority of Americans who prefer rail to air travel. In 1945, as in 1944, this percentage was 58; while in 1943 it was 64. However, there is not much reason for railroad cheer in the choice by young people of a mode of travel—64 per cent of respondents under 30 years of age gave planes as their preference.

Asked what the railroads should do to make them want to travel more by train, an overwhelming plurality (59 per cent) said "modernize equipment." The next suggestion in order of popularity (15 per cent) was "lower fares." By contrast, only 11 per cent mentioned higher speed as a desirable improvement. The chief advantage which railroads have over airlines, in popular opinion, is their greater safety (53 per cent of those who favor the railroads over the airlines ascribing this factor for their selection). However, 35 per cent of respondents believe the railroads are less safe than they were before the war, 21 per cent say they are safer, and 44 per cent say they are "about the same." The reasons ascribed for the belief in a decline in railroad safety are "worn-out equipment" and "inexperienced help." The public likes speed, which is the chief reason why a considerable minority prefer air transportation but, strangely, none of the respondents mentioned one of the railroads' principal advantages, viz., dependability of service.

Fare preferences are difficult to get at in a survey of this kind, since respondents are reluctant to admit that financial considerations are important to them; but 15 per cent of those questioned volunteered the information that lower fares would induce them to travel more frequently by rail.

The proportion of the public which is critical of railroad employees is still not large, but the ratio grows each year. It was 8 per cent in 1942, 9 per cent in 1943, 10 per cent in 1944, and 14 per cent in 1945. Two out of five of recent travelers say that railroad employees are less accommodating than they were before the war. Only one person out of four among recent travelers was favorably impressed with the condition of washroom facilities.

With all the above opinions, though, the great majority of the public expects the railroads to do well after the war—and, in freight service, expects them to hold their lead over other transportation agencies because of their "greater capacity," "efficient organization," and "lower rates"; and believes that their principal disadvantages lie in the lack of door-to-door service such as is provided by trucks, and in the greater speed of the airlines. Publicity of the railroads' war-time earnings has apparently induced the public to forget all about the carriers' pre-war hard times; 59 per cent believe they have made substantial profits over the past ten years; 91 per cent believe they are operating at a profit now; and 15 per cent believe their present profits are excessive.

Managements Not Blamed

Upon the 89 per cent of respondents who believe the railroads "have done a good job" during the war, the handling of war materials and troops are the activities which have made the deepest impression. Those who believe there have been serious delays in handling freight during the war accurately place the blame on such factors as inadequate man-power and lack of equipment; there is little inclination to blame the railroads for such delays. Those who have heard of unsatisfactory passenger service place the blame on the war and the number of people traveling.

There is evidence, however, that public tolerance of sub-standard railroad service, while still very high, reached its peak in 1944 and is now on the wane. The ratio of respondents who had heard complaints of railroad passenger service in 1945 was 73 per cent; the percentages were 67 in 1944, 64 in 1943, and 30 in 1942.

For uncomfortable travel conditions, one person in eight blames the railroads, and a few people blame delays in freight handling on "lack of foresight" by management in providing sufficient equipment. Of the 10 per cent of respondents who believe the railroads could give better service, two out of five believe management could do a better job than it is doing.

Despite all the agitation over freight rates during 1945 only one person in four has heard anything of such criticism. In the South, however, almost half of the people are aware of recent criticism of freight rates. Only one person in ten in the East says that freight rates are too high; one person in five in the West; but one out of every two persons in the Sotuh holds this belief.

On a question of the prospect for post-war prosperity, 57 per cent of all respondents look for good times; and this percentage holds rather even for all age groups, for rural areas as well as cities, and for all geographical areas. Only the low-income group is somewhat more pessimistic on this score than other groups, its percentage expecting prosperity being only 50.

On the matter of government ownership of some industry, 27 per cent of respondents gave an affirmative answer. Groups registering markedly higher than the average tolerance for such a socialistic trend (with the percentage of each shown in parentheses) are: Lower income class (30); under 30 years of age (30); inhabitants of large cities (37), and inhabitants of the East (33). The lowest tolerance for government invasion of industry (with the percentages shown in parentheses) is evidenced by: The upper-income group (24); persons of ages 30-44 (26); rural people (21); Middle Westerners (22). Of the small ratio (6 per cent) who favor government operation of the railroads, the following groups are above the nation-wide average: Persons under 30 (7 per cent); inhabitants of large cities (8 per cent); and citizens of the East and Far West (7 per cent).

This opinion survey was taken in accordance with a technique similar to that which has demonstrated its high degree of accuracy in predicting the results of political elections in recent years. The total of persons questioned was 2,492, carefully allocated to assure a representative "sample" from the whole country—in accordance with the relative population of the various regions; in relation to the number of persons in the "low," "middle," and "upper" income brackets; the number who are young, in their middle years, and elderly; the division between the sexes; and with the sample reflecting the number of people resident in communities of various sizes.

Test for Adequacy of Sample

Having assured that the "sample" has the same percentage of each group that the entire population does, a very simple test indicates when the sample is large enough. This test consists in the fact that the point comes when additional answers do not make any change in the percentage saying yes or no. For example, on the question whether all forms of transportation "had an equal chance" before the war, the first 800 answers gave a percentage of 65 saying yes. Two hundred more answers changed the percentage to 64; two hundred more (1200 total) gave 63 per cent; 1300 brought the percentage to 62, and it "stabilized" at that point. That is to say, as each 100 additional

answers were added to those already tabulated, there was no variation whatever after 1300. This "stabilization" could have been definitely established after 1400 or 1500 answers were in. Thus the total of 2,492 interviews was almost twice the size of the sample needed to give a dependable answer to this particular question. The larger number of respondents was required in order to give stabilized replies when answers were broken down into the various territorial and other groups.

Standard methods of statistical analysis indicate that, on the typical question, (e.g., where 20 per cent of 2,492 respondents said they favored the use of government funds to provide bus terminals), the technique used here would permit an error as high as 3 per cent, arising from the size of the sample, only once in 1000 times.

Unified Industry a Military Peril

Survey of bombing of Germany shows raids did little harm to production in dispersed industries, and that knocking out their railroads was really the decisive blow to Nazis

THE War Department has published an 18-page pamphlet under the title of "The United States Strategic Bombing Survey—European War" in which the extent and effectiveness of the strategic bombing of Germany is summarized, and attention is drawn to the mistakes as well as the successes of that operation.

The vulnerability of a nation under air attack when it has gone in for excessive industrial centralization is made clear. For example, "the German antifriction bearing industry was heavily concentrated. . . . Approximately half the output came from plants in the vicinity of Schweinfurt." So Schweinfurt was heavily bombed and production of bearings was temporarily greatly reduced. But these raids destroyed buildings rather than machinery, and, following the raids, the Nazis widely dispersed these machines, with the result that by the fall of 1944 bearing production was back to "pre-raid levels"; and "there is no evidence that the attacks on the ball-bearing industry had any measurable effect on essential war production."

Centralized Industry Is Kayoed

With an industry highly concentrated and too big to be quickly decentralized, however, the result was far different—aviation gasoline, for example. The principal sources of supply were 13 synthetic oil plants, which were producing 316,000 tons per month when the bombing began. In June, 1944, this production had fallen to 107,000 tons and, in September, to 17,000 tons; production, that is, was reduced about 95 per cent. The Germans made a desperate effort to scatter this industry and put it underground, but "the synthetic oil plants were vast complex structures" which "could not be easily broken up and dispersed."

The Germans began the widespread dispersal of the aircraft industry in 1943 before heavy Allied bombing got under way and, as a consequence, this industry produced in 1944 far more planes than it did in 1942 before air raids began. The reason the Luftwaffe did not give a better account of itself in 1944 was not a poor showing in plane production but arose from the shortage of gasoline and pilots, and possibly the destruction of planes in transit.

"The attack on transportation," however, says the report, "was the decisive blow that completely disorganized the German economy. It reduced war production in all categories and made it difficult to move what was produced to the front. The attack also limited the tactical mobility of the German army.

"The Survey made a careful examination of the German railway system, beginning as soon as substantial portions were in Allied hands. While certain important records were destroyed or lost during the battle of Germany, enough were located so that together with interrogation of many German railroad officials it was possible to construct an accurate picture of the decline and collapse of the system.

"Germany entered the war with an excellent railway system; it had general overcapacity in both lines and yards (built partly in anticipation of military requirements), and, popular supposition to the contrary, the system was not under-maintained. Standards of maintenance were higher than those general in the United States. The railway system was supplemented by a strong inland waterways system connecting the important rivers of northern Germany, crisscrossing the Ruhr and connecting it with Berlin. The waterways carried from 21 to 26 per cent of the total freight movement. Commercial highway transport of freight was insignificant; it accounted for less than three per cent of the total.

"Although the investigation shows that the railroad system was under strain—especially during the winter campaign in Russia in 1941-42 when there was a serious shortage of cars and locomotives—it was generally adequate for the demands placed upon it until the spring of 1944. New construction and appropriation of equipment of occupied countries remedied the locomotive and car shortage. The Reichsbahn had taken no important steps to prepare itself for air attack.

"The attack on German transportation was intimately woven with the development of ground operations. In support of the invasion a major assignment of the air forces had been the disruption of rail traffic between Germany and the French coast through bombing of marshalling yards in northern France. At the time of the invasion itself a systematic and large-scale attempt was made to interdict all traffic to the Normandy beachhead. These latter operations were notably successful; as the front moved to the German border the attack was extended to the railroads of the Reich proper. Heavy and medium bombers and fighters all participated.

Heavy Attack in September, '44

"Although prior to September, 1944, there had been sporadic attacks on the German transportation system, no serious deterioration in its ability to handle traffic was identified by the Survey. The vastly heavier attacks in September and October, 1944, on marshalling yards, bridges, lines, and on train movements, produced a serious disruption in traffic over all of western Germany. Freight carloadings, which were approximately 900,000 cars for the Reich as a whole in the week ending August 19, fell to 700,000 cars in the last week of October. There was some recovery in early November, but thereafter they declined erratically to 550,000 cars in the week ending December 23 and to 214,000 cars during the week ending March 3. Thereafter the disorganization was so great that no useful statistics were kept.

"The attack on the waterways paralleled that on the railways; the investigation shows that it was even more successful. On September 23, 1944, the Dortmund-Ems and Mittelland canals were interdicted, stopping all through water traffic between the Ruhr and points on the north coast and in central Germany. By October 14, traffic on the Rhine had been interdicted by a bomb that detonated a German demolition charge on a bridge at Cologne. Traffic in the Ruhr dropped sharply and all water movement of coal to south Germany ceased.

"The effect of this progressive traffic tie-up was found, as might be expected, to have first affected commodities normally shipped in less-than-trainload lots—finished and semi-finished manufactured goods, components, perishable consumer goods and the less bulky raw materials. Cars loaded with these commodities had to be handled through the marshalling yards and after the September and October attacks this became increasingly difficult or impossible. Although output of many indus-

tries reached a peak in late summer and declined thereafter, total output of the economy was on the whole well-maintained through November. Beginning in December there was a sharp fall in production in nearly all industries; week by week the decline continued until the end of the war.

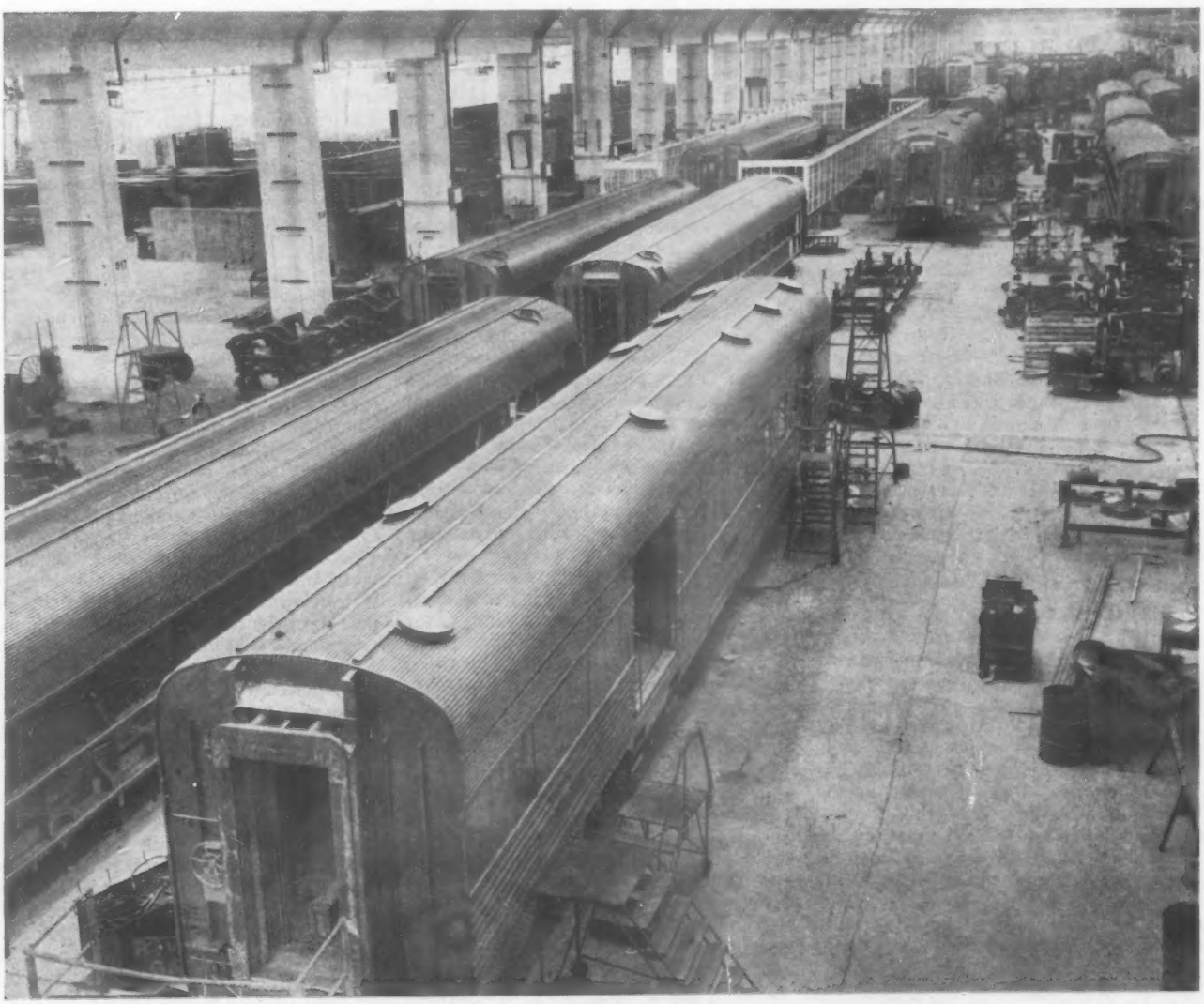
"Although coal traffic (about 40 per cent of all the traffic carried by the German railways) held up better than miscellaneous commercial traffic, the decline was both more easily traceable and more dramatic. The September raids reduced coal-car placements in the Essen Division of the Reichsbahn (the originator of most of the coal traffic of the Ruhr) to an average of 12,000 cars daily as compared with 21,400 at the beginning of the year. Most of this was for consumption within the Ruhr. By January, placements in the Ruhr were down to 9,000 cars a day and in February virtually complete interdiction of the Ruhr District was achieved. Such coal as was loaded was subject to confiscation by the railroads to fuel their locomotives; even with this supply, coal stocks of the Reichsbahn itself were reduced from 18 days' supply in October, 1944, to 4½ days' supply in February, 1945. By March some divisions in southern Germany had less than a day's supply on hand, and locomotives were idle because of lack of coal.

"The German economy was powered by coal; except in limited areas, the coal supply had been eliminated.

"Military (Wehrmacht) traffic had top priority over all other traffic. During the period of attack this traffic came to account for an ever-increasing proportion of the declining movement. Through 1944 the air attack did not prevent the army from originating such movements although the time of arrival or even the arrival of units and equipment became increasingly uncertain. Couriers accompanied detachments and even shipments of tanks and other weapons: their task was to get off the train when it was delayed and report where it could be found. After the turn of the year even military movements became increasingly difficult. The Ardennes counter-offensive, the troops and equipment for which were marshalled over the railroads, was probably the last such effort of which the Reichbahn would have been capable in the west."

Our bombers did not devote much attention to Germany's electric power industry because of the mistaken belief "that the German power grid was highly developed and that losses in one area could be compensated by switching power from another." This assumption was incorrect, because, as a matter of fact, a high degree of concentration in generating facilities existed, making the power supply heavily vulnerable. If five large generating plants had been knocked out, the country's power supply would have been reduced 8 per cent; and the destruction of 45 plants would have destroyed 40 per cent of the Nazi's electric power.

* * * *



The Red Lion Plant of the Edward G. Budd Manufacturing Company

What a party of representatives of leading newspapers and press associations saw when they inspected the plant on October 30. The party is making a cross-country survey on reconstruction, sponsored by the National Association of Manufacturers.

GENERAL NEWS

Realistic Transport Policy Badly Needed

Pelley tells New Yorkers of rails' capital needs and obstacles in way

The Chamber of Commerce of the State of New York on November 1 heard an address by John J. Pelley in which the A.A.R. chief executive outlined the railroads' constant needs for new capital in providing adequate and improved service, and the political obstacles at present placed in their way in attracting investment funds.

"American railroads—not just the locomotives and cars, but the tracks and terminals and signals, the whole thing—are the creation of private investment," said Mr. Pelley. All the public funds ever spent on railroads have amounted to less than two per cent of the total invested in them. The money of private investors built them. Private capital has improved them, having spent for that purpose since the first World War more than eleven billion dollars. And private capital is looked to to make the further improvements which will be required for better and better rail service to the public.

Taxes Provide Rival Plant—"In the case of other forms of general transportation, private capital provides the vehicles—analogous to the cars and locomotives of the railroad—but the much larger investment required to provide the highways, waterways and airways over which these vehicles are used in the commercial business of transportation is made out of public funds.

"This difference in the source of the funds which have created and maintain the fixed ways over which the various sorts of transportation business is carried on creates for the railroads a difficult competitive handicap. Railroads must sell their services for enough to cover the cost of providing and running their trains. In that respect, they are like all the other forms of transportation. But in addition, railroads must cover, out of the rates they charge, the cost of building their tracks and of maintaining them. That represents, for the average mile of railroad, an investment in roadway, signals and the like, of about $65,000 and an average annual upkeep of about $5,000.

"And on these tracks, railroads must pay, also, real taxes—that is, taxes not to be spent on railroad tracks or for the special benefit of railroads, but which are spent for the support of the general activities and services of government, such as national defense, public safety, public education, public health and the like.

"The movement of most commercial traffic is highly sensitive to price considerations. Much traffic is diverted from the rails because railroad rates must be sufficient to cover all the costs of the service, while the rates of some other forms of transport need cover little more than the cost of providing and operating the moving vehicles. Such diversion of traffic from the rails is serious—and the more serious because railroading is a business in which success depends to so great an extent upon the volume of traffic.

"The question is of real moment not just to the railroads, but to all business, and all the people, of this country. The war has shown that its self-supporting, tax-paying railroads, under business management, are capable of meeting vital needs in great emergency, as they could have been met in no other way. Peacetime commerce will equally require the service which railroads alone can render.

Sound Public Policy Needed—"To get the best results in the time ahead, there must be such an equality of conditions among transportation agencies as will cause traffic to flow naturally to that agency which can do the best job, considering service and all the costs involved. To create such conditions is a task calling for public consideration and transportation statesmanship of a high order.

"The railroads' peacetime task is to provide transportation service—the best service of which they are capable, produced and sold at the lowest cost. So far as research and technology go, the railroads know that this can be done, provided only there is kept up that flow of investment in railroad facilities which in the past has accomplished results so great and which offers for the future so bright a promise. That, however, cannot be accomplished without public policies which, in all fairness, give to each form of transportation equal treatment and

(*Continued on page 725*)

T. & P. Employee Magazine

The October, 1945, issue of the Texas & Pacific "Topics" has appeared—Vol. 1, No. 1 of that company's monthly magazine for its employees. The publication is issued under the supervision of J. B. Shores, director of public relations, with Chris D. Hobson as editor.

Coat-pocket (4¾ by 6¾ in.) in size, the first issue contains 24 pages of text—no advertising. Approximately half of the magazine is devoted to personal news. There is a message to employees from President W. G. Vollmer, a department of humorous stories, a page entitled "Courtesy Tips," an article on the company's bowling league at Dallas, and an illustrated discussion of the company's water service. The magazine is printed in two colors, with a photographic front cover.

22 Railroads Enter Bid for Pullman Co.

Standard Steel Spring Co. also offers $40 million cash for all capital stock

There are two new developments in the Pullman case. On October 29, a group of 22 railroads filed in the United States District Court in Philadelphia a motion to intervene in the proposed sale of the sleeping car services of the Pullman Company, and asked approval of the Court for their proposal. Two days previously the Standard Steel Spring Company, Coraopolis, Pa., filed in the same court a petition for the purchase of all capital stock of the Pullman Company for $40 million cash. According to Willard F. Rockwell, chairman of the board of Standard Steel Spring, this offer contemplated the purchase by the railroads of $35 million of modern lightweight sleeping cars and parlor cars owned by Pullman Company and held by the railroads under option. This would bring the total sale to about $75 million.

Four Bidders—To date there have been four bids for the purchase of the sleeping car services of the Pullman Company. On August 27, Otis & Co., investment bankers of Cleveland, Ohio, filed in this same district court a proposal to purchase the sleeping car services for $75 million. (See detailed account, *Railway Age*, September 1, page 370.) This proposal is to be considered by the court on November 5. The second bid was made on October 13 by the investment banking house of Glore, Forgan & Co., Chicago.

On October 27, two days before making formal court application, the 22 railroads over whose lines more than 80 per cent of all sleeping car services are operated, submitted their purchase offer to D. A. Crawford, president of Pullman, Inc., in a letter from W. F. Place, vice-president, finance, New York Central, acting in behalf of the buying group. Fred G. Gurley, president, Atchison, Topeka & Santa Fe, delivered the letter in person. He is one of three executives designated by the railroad group to act as a committee for them in consummating the purchase of Pullman stock subject to court approval. The other two members are Gustav Metzman, president, New York Central, and chairman of the Eastern Railroad President's Conference, and Ernest E. Norris, president, Southern Railway, and chairman of the Southeastern Presidents' Conference.

In their court application the railroads indicated that public interest as well as the rights of railroads would be adversely affected by the disposition of the stock or

assets of the Pullman Company to any interest other than the railroads.

A Railroad Job—"It is primarily the duty of the railroads," the application stated, "to provide sleeping cars and sleeping car service for the comfort and convenience of the traveling public, and no other person has right, opportunity or obligation to furnish such cars or service except under contract with railroad companies delegating such primary duty.

"The public interest requires that the railroads either conduct their own sleeping car service or that it be conducted by an agency chosen by them, and not by one which imposes itself upon them by purchasing the only available sleeping cars. The public interest also requires that each railroad be free to decide for itself whether and to what extent it will own the sleeping cars operated on its lines."

The application further asserts that "any other purchase of stock of the Pullman Company, intending to make substantial expenditure for sleeping cars, necessarily proposes as a practical matter to use money of the railroads for that purpose, because the cost must be paid by the railroads, either immediately and directly, or through service and other charges, under contracts by which the railroads in practical effect would underwrite both the original cost and the carrying charges, as well as profit upon it."

Declaring that the proposed sale of the Pullman Company stock "arises from the election of Pullman Incorporated under the decree to dispose of its sleeping car business and property rather than its manufacturing business," the railroads contend that such election "should not be carried into effect at the expense of the public or of the railroads, or in transgression of their rights, or in disregard of obligation to them."

The Railroad Interest—The application further states that it is the railroads' understanding that the court has not expressed intention of negotiating with any possible buyer or itself sell the stock or property of the Pullman Company, construing that the decree of May 8, 1944, and the order of March 22, 1945, requiring that Pullman Incorporated negotiate and make the sale, and the grant that Pullman would be given until May 23, 1946, to consummate the sale, still stands. The railroads assert that they now appear "for the purpose of being assured that the interests of the public entrusted to them in their capacity as common carriers of passengers, and their own rights, shall be protected if the Court at the instance of other prospective purchasers shall enter upon consideration of unaccepted offers before the expiration of the period fixed by the court for sale by Pullman Incorporated."

The application of the railroads to intervene was filed by attorneys for the applicant railroads, namely, Jacob Aronson, vice-president law, New York Central, John Dickinson, general counsel, Pennsylvania, Emmett E. McInnis, general counsel, Atchison, Topeka & Santa Fe, and Sydney E. Prince, general counsel, Southern.

The offer of the buying group, which contemplates purchase for cash, is made for the collective account of themselves and all other railroads in the United States which may care to participate. It constitutes an acceptance of the Pullman Incorporated offer to sell the stock of the Pullman Company at a valuation slightly under $75 million. There are, however, certain modifications which the railroads would make, having to do with "methods of computation of the amount of depreciation and deferred maintenance."

The petitioning railroads include: New York Central; Southern Pacific; Chicago, Burlington & Quincy; Atchison, Topeka & Santa Fe; Southern; Union Pacific; Northern Pacific; Chicago, Milwaukee, St. Paul & Pacific; Chicago & North Western; Pennsylvania; Illinois Central; Great Northern; Norfolk & Western; Louisville & Nashville; Atlantic Coast Line; Baltimore & Ohio; Nashville, Chattanooga & St. Louis; Chicago, Rock Island & Pacific; Western Railway of Alabama; Wabash; New York, New Haven & Hartford; and the Seaboard Air Line.

On October 26, the states of Colorado and California filed a joint petition in the Federal District Court in Philadelphia, opposing the sale of Pullman sleeping-car facilities to the railroads of the United States, and urged a speedy sale to an "independent and aggressive" management. While neither state was a party the government's suit for dissolution of the alleged monopoly, they claimed to be entering the proceedings in the interest of their future growth and development, which they said depended upon modernizing transportation methods.

Ticket Agents to Resume Meetings

After being inactive since early in 1941 due to increasing demands on the time of the membership, the American Association of Railroad Ticket Agents will hold an executive meeting at the Morrison hotel in Chicago on November 7. The gathering will be devoted solely to discussion of the resumption of general meetings and the setting up of a program beneficial to the future welfare of the organization.

Embargo Port of Galveston

The Car Service Division of the Association of American Railroads, on October 29, issued a general embargo of all carload and l.c.l. freight for export or coastwise movement, when routed via Galveston, Tex., because of labor troubles. With the closing of Galveston to such traffic, the two principal Gulf ports of the Southwest are now under embargo, a similar restriction on traffic routed via Houston, being made effective a week previously, as reported in the *Railway Age* of October 27.

Tank Car Slow-Down Deplored

Railroads have been advised by W. C. Kendall, chairman of the Car Service Division of the Association of American Railroads, that measures should be taken to correct a reported recent let-down in the movement of tank cars now in service, both loaded and empty, particularly of those used for the transportation of vegetable oils, lard and grease, and similar commodities, where it is said considerable delay is being experienced by some shippers.

Even though there is a surplus of tank cars, resulting largely from the sharp decrease in the petroleum movement by rail after the war ended, now estimated at about 25,000 cars, many of these cars have been placed in storage and others have been used to fill in the supply available for assigned service and for short haul business which was curtailed during the war. The result, it was indicated, is a stringency in the tank car supply available in some localities, and for some types of traffic.

Alton Restores Two Trains

The Alton has announced restoration to service of two trains, Nos. 9 and 10, operating between Chicago and St. Louis, Mo. No. 9 will leave Chicago at 11:59 p. m., and No. 10 will depart from St. Louis at 12:30 a. m. Although both units are designated as coach trains, No. 10 will handle the sleeping car from Oklahoma City, Okla., to Chicago in connection with St. Louis-San Francisco train No. 4, and the Hot Springs, Ark.-Chicago sleeping car of the Missouri Pacific. At the same time the Alton announced that, effective October 28, the "Abraham Lincoln," train Nos. 2 and 3, will operate in two sections, the second sections consisting of coaches and dining cars.

A. A. R. Fixes Annual Meeting Date; Extends Research

The annual meeting of member roads of the Association of American Railroads will be held November 30 at the Blackstone hotel, Chicago, it was announced after the monthly meeting October 26 of the board of directors in Washington, D. C.

At this meeting the directors authorized two research projects to be undertaken by component parts of the A. A. R. organization. One, which will be directed by the Operations and Maintenance Department under the supervision of C. H. Buford, vice-president, constitutes an enlargement and extension of previous studies of refrigerator car equipment. A two-year program has been outlined, to be carried on by engineers under A. A. R. direction in cooperation with shippers of perishables, the Department of Agriculture, private car lines, and individual railroads.

Included in the "reefer" research program are such subjects as car design, bunker arrangement, application of fans and ventilating devices, use of mechanical refrigeration, provision of heating equipment and improvement of its design, installation of distant-register type thermometers, and techniques of frozen food transportation.

The second project for which a broader and more active program of investigation has been approved is that dealing with the design, specifications and utilization of freight containers. Research in this field will be carried on through the joint efforts of the A. A. R. Freight Container Bureau and the Classification Committee.

Making his regular appearance at the A. A. R. board meeting, Col. J. Monroe Johnson, director of the Office of Defense Transportation, exchanged compliments with those present for the successful conclusion of the war jobs of the railroads and the O. D. T. So far as the latter is concerned, he made it clear, there are no more battles to be won. The return of service men from overseas in the most expeditious

and comfortable manner possible is still a big transportation task, of course, but, he pointed out, it lacks the element of urgency attached to movements carried on while fighting was in progress. The principal concern of the O. D. T. now is to wind up its affairs, including several general orders which remain in effect, among others that establishing minimum loads for freight cars and that banning sleeping cars on runs under 450 miles.

While the O. D. T.'s battles are over, the railroads still have to face one particularly difficult passenger traffic situation, it was pointed out after the A. A. R. board meeting, namely, the combination of Christmas holiday travel by civilians with a military personnel movement that is expected to be at peak proportions. While most roads are now experiencing some decline in civilian passenger travel, it was stated, the normal holiday rush, coming on top of their troop business, is admittedly going to be difficult to handle satisfactorily.

Carriers and Five Union Heads Plan New Chicago Meeting

Three representatives of major railroads and officers of five railroad unions who held a preliminary meeting at Chicago last week have completed plans for another session in that city within the next ten days. At that time it is expected that definite arrangements will be completed for negotiations on employee wages and working rules.

Those representing the carriers were H. A. Enochs, Philadelphia, Pa.; Daniel P. Loomis, Chicago, and J. B. Parrish, Richmond, Va. They are chairmen, respectively, of the Eastern Carriers Conference Committee, the Western Carriers Conference Committee and the Southeastern Carriers Conference Committee.

The union representatives were J. P. Shields, Brotherhood of Locomotive Engineers; C. J. Goff, Brotherhood of Locomotive Firemen & Enginemen; H. W. Fraser, Order of Railroad Conductors; D. A. MacKenzie, Brotherhood of Railroad Trainmen; and T. C. Cashen, Switchmen's Union of North America.

Col. Bingham to Address New York R.R. Club, November 15

Colonel Sidney H. Bingham, assistant to director general, Military Railway Service, will tell of "Planning and Mounting the U. S. Military Railway Service, Transportation Corps, for the Invasion of Europe," at the November 15, 8 p. m. meeting of the New York Railroad Club, 33 West 39th street, New York.

Three and one-half years in service, and holder of numerous awards, including the Legion of Merit, Bronze Star, Purple Heart, Croix de Guerre with Palm, and Commander of the British Empire, Colonel Bingham designed the "Breathing Bridge," enabling the landing from L. S. T.'s of thousands of loaded cars, locomotives and tanks for delivery across the Channel to rails on the shallow beaches, despite a tidal variation of 26 feet. He planned and directed construction of shops 20 miles from London, where over 20,000 cars and 1,300 locomotives were assembled for the E. T. O. by October 1, 1944. He also designed and built 37 hospital trains of 20 cars each for British and American armies.

Colonel Bingham only recently was released from Halloran hospital, Staten Island, N. Y., where, since June, he has been recovering from injuries suffered during a German 1,000-lb. bomb explosion.

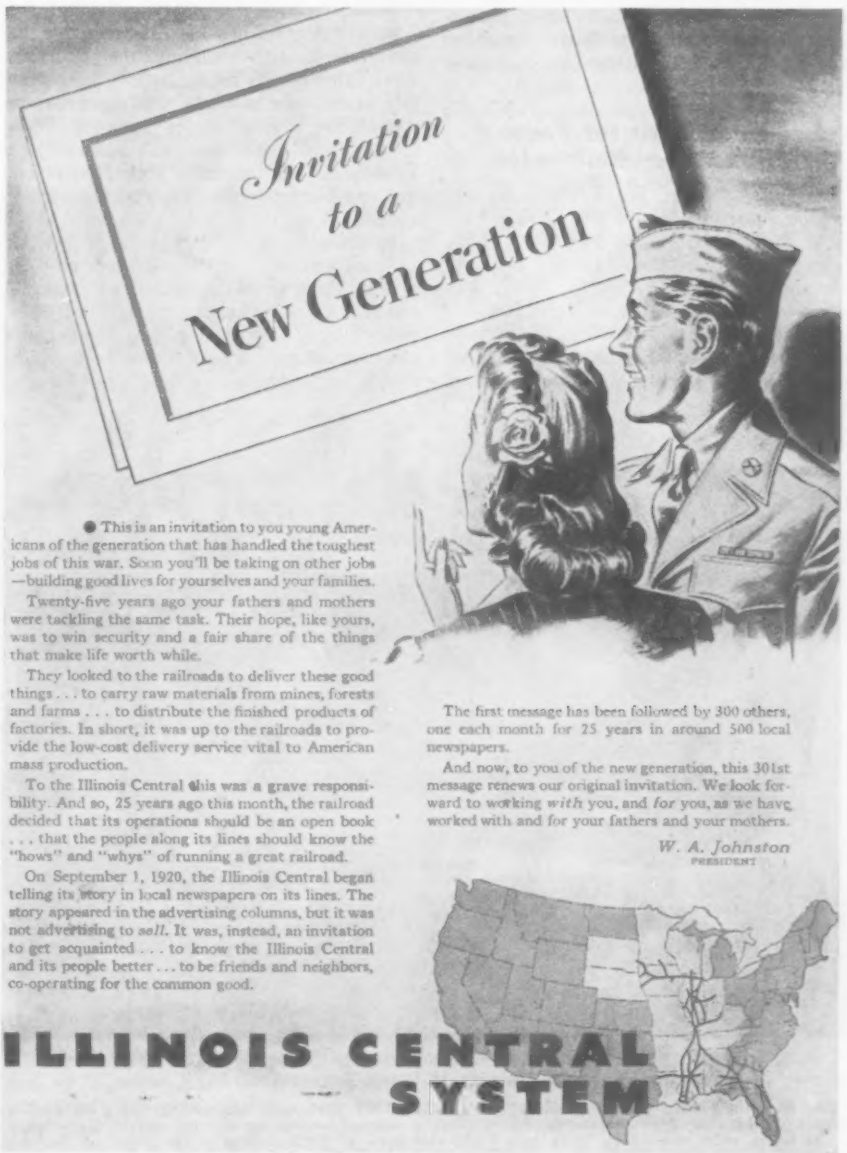
A Quarter Century of Public Relations Ads

On November 2 the Illinois Central held a "get-together" with newspaper men in the Hotel Stevens, Chicago, to celebrate the completion of the twenty-fifth anniversary of its public relations advertising campaign, which has set a world's record for the duration of an uninterrupted advertising campaign devoted to a single objective. The campaign represents a total expenditure of approximately $2,000,000 and comprises 300 advertisements which have appeared each month since September 1, 1920, in 150 daily and 350 weekly newspapers along the lines of the Illinois Central.

The campaign was started under the late C. H. Markham, then president of the Illinois Central, and for the first few years was under the direction of the late H. B. Hull who, when he died in 1925, was vice-president of the I. C. George M. Crowson was employed in 1920 to assist Mr. Hull and since 1925 has been conducting the campaign as a part of his duties as assistant to the president in charge of public relations.

These advertisements have never been directed primarily to sell freight or passenger service. Instead, they have all been invitations to the public to know the Illinois Central and its officers and employees better and to be friends and neighbors co-operating for the common good. In keeping with this personalization of advertising, all of the advertisements have appeared over the signature of the presidents of the I. C., first Mr. Markham, then the late L. A. Downs and the late J. L. Beven, and currently over the signature of Wayne Johnston.

That the series has a "double-barreled" function was indicated in the statement of Mr. Crowson. "We realize," he said, "that public relations advertising in local newspapers is also a means of communicating


Invitation to a New Generation
● This is an invitation to you young Americans of the generation that has handled the toughest jobs of this war. Soon you'll be taking on other jobs —building good lives for yourselves and your families.
Twenty-five years ago your fathers and mothers were tackling the same task. Their hope, like yours, was to win security and a fair share of the things that make life worth while.
They looked to the railroads to deliver these good things . . . to carry raw materials from mines, forests and farms . . . to distribute the finished products of factories. In short, it was up to the railroads to provide the low-cost delivery service vital to American mass production.
To the Illinois Central this was a grave responsibility. And so, 25 years ago this month, the railroad decided that its operations should be an open book . . . that the people along its lines should know the "hows" and "whys" of running a great railroad.
On September 1, 1920, the Illinois Central began telling its story in local newspapers on its lines. The story appeared in the advertising columns, but it was not advertising to sell. It was, instead, an invitation to get acquainted . . . to know the Illinois Central and its people better . . . to be friends and neighbors, co-operating for the common good.
The first message has been followed by 300 others, one each month for 25 years in around 500 local newspapers.
And now, to you of the new generation, this 301st message renews our original invitation. We look forward to working with you, and for you, as we have worked with and for your fathers and your mothers.
W. A. Johnston
PRESIDENT
ILLINOIS CENTRAL SYSTEM

A Recent Illinois Central Public Relations Advertisement

intelligence to every employee in our ranks. Our monthly message has dramatized the problems and policies of the I. C. and has made the people along its lines and its employees feel an attachment to it. The series has been based upon the principle of removing the mystery from railroading and has created a public understanding of what it is all about."

Chicago Time Change Ends Rail Passenger's Confusion

Confusion which has reigned at the various Chicago railway terminals because of that city's refusal to abandon daylight saving time in line with the balance of the nation, came to an end on October 28 when Central Standard time was adopted after a long delay and city clocks were turned back to coincide with railroad time and timetables.

Through trains arriving at and leaving Chicago prior to the delayed change operated on standard time, but suburban service, which is furnished by many of the major railroads, was of necessity operated on daylight saving time. The general confusion arose for visitors when they appeared at the various stations to board departing trains and found themselves an hour too early.

Legion of Merit for Former Lehigh Valley Railroader

Lt. Col. William W. Preisch, former division superintendent of the Lehigh Valley at Buffalo, N. Y., and at present chief, Transportation section, Office Military Government (U. S.) for Germany, has been awarded the Legion of Merit "for exceptionally meritorious conduct in the performance of outstanding services as chief of the Railway section and later as chief of Railway Movements section, Headquarters, Advance Section, Communications Zone, E.T.O., from September 12, 1944, to May 9, 1945."

Colonel Preisch received his medal in Berlin from Lt. Gen. Lucius Clay, deputy military governor of Germany. His citation said of him that he had "efficiently organized his staff to conduct reconnaissance of railroad facilities and prospective depot sites and maintenance areas . . . and that his final recommendations were of the utmost value in determining the most advantageous locations for depots and maintenance areas." It was stated that Colonel Preisch had eliminated a serious terminal congestion at Rheims, France, in 36 hours, and that he had given valuable advice and made accurate estimates in connection with the Rhine bridge crossings.

Except for his two periods of military service, the first during World War I, Colonel Preisch has worked constantly for the Lehigh Valley since 1904.

Southern Pacific Charged with Anti-Trust Law Violation

Named with seven other defendants, the Southern Pacific has been charged by the government with violating the Sherman Anti-Trust law by taking part in "conspiracies in restraint of trade" and "attempts to monopolize travel routes between West Coast cities." The suit was filed at San Francisco, Cal., by James McI. Henderson, on behalf of the United States attorney general.

Specifically the complaint alleges that the railroad and the other defendants have been in a combination to eliminate and keep out competition along certain routes. It is likewise charged that those named in the complaint attempted to control westbound passenger traffic by "closed-door" agreements.

* * *

American Express Conducts 10-Week Travel Training Course

Twelve young women trainees, chosen from a field of 400 applicants, are now receiving instruction in guide books, timetables and the procedure about a railroad station, an airport, aboard a steamship and at hotels, prior to handling tours on a world-wide basis at district offices of the American Express Company. Opening the conference and seated at the head of table, at right is Ralph T. Reed, president. At the left, is Richard Taylor, personnel manager. At far left are: William F. Fox, passenger traffic manager, B. E. Wren, assistant passenger traffic manager, and Walter C. Rundle, vice-president in charge of foreign travel, at lower right.

The firms named in the suit, in addition to the Southern Pacific, are: the Greyhound Corporation of Chicago, Dollar Line of Portland, Ore., the Interstate Transit Line and Interstate Transit Lines, Inc., and the Union Pacific Stages, Inc., the Pacific Greyhound Lines and the Standard Oil Company of California.

Freight Car Loading

Loadings of revenue freight for the week ended October 27 totaled 854,779 cars, the Association of American Railroads announced on November 1. This was an increase of 81,352 cars, or 10.5 per cent above the previous week, a decrease of 61,706 cars or 6.7 per cent below the corresponding week last year, and a decrease of 28,948 cars, or 3.3 per cent below the comparable 1943 week.

Loading of revenue freight for the week ended October 20 totaled 773,427 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, October 20

District	1945	1944	1943
Eastern	140,787	165,902	172,649
Allegheny	147,518	194,293	192,977
Pocahontas	20,712	53,805	55,168
Southern	115,049	121,464	123,216
Northwestern	137,776	141,682	143,519
Central Western	147,335	150,420	141,394
Southwestern	64,250	78,439	76,496
Total Western Districts	349,361	370,541	361,409
Total All Roads	773,427	906,005	905,419
Commodities			
Grain and grain products	59,726	56,724	59,765
Live stock	27,195	26,555	27,750
Coal	96,965	171,527	172,123
Coke	6,997	14,580	15,319
Forest products	37,021	42,565	43,812
Ore	62,327	67,046	73,724
Merchandise l.c.l.	114,134	108,053	105,944
Miscellaneous	369,062	418,955	406,982
October 20	773,427	906,005	905,419
October 13	754,521	898,720	912,348
October 6	767,985	877,035	906,357
September 29	832,263	912,627	910,644
September 22	837,293	897,883	907,311
Cumulative Total, 42 Weeks	34,293,047	35,427,825	34,521,989

In Canada.—Carloadings for the week ended October 20 totaled 77,362 as compared with 69,666 for the previous week and 78,789 cars for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

Totals in Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
Oct. 20, 1945	77,362	30,992
Oct. 21, 1944	78,789	39,352
Cumulative Totals in Canada:		
Oct. 20, 1945	2,913,727	1,482,771
Oct. 21, 1944	2,955,158	1,611,998

Western Railroads Will Spend 1½ Billions on Improvements

Western railroads have launched an impressive improvement program for 1946 which will cost approximately one and one-half billion dollars and when completed will assure nearly all principal cities in the West of service by one or more modern streamlined trains.

That was the statement this week of C. E. Johnston, chairman of the Western Association of Railway Executives, who also declared that western roads have on order with various manufacturers a vast

amount of equipment including approximately 1,400,000 tons of rail, 300 Diesel-electric locomotives of various types, an undetermined number of steam locomotives and approximately 700 passenger and 30,000 freight cars. The rail on order will be used to relay more than 7,000 miles of main line track, while emphasis will be laid upon elimination of grades and curves and reinforcing of ballast.

Four Railroad Sessions at A.S.M.E. Annual Meeting

At the annual meeting of the American Society of Mechanical Engineers, scheduled to be held at the Hotel Pennsylvania, New York, during the last week in November, the Railroad Division of the society has scheduled four sessions, as shown in the following program:

WEDNESDAY, NOVEMBER 28
2:00 p. m.

Joint Session Railroad and Fuels Divisions
Subject: Utilization of Solid Fuels in Railroad Motive Power.

Symposium speakers:

K. A. Browne, research consultant, Chesapeake & Ohio, Cleveland, Ohio.

C. F. Hardy, chief engineer, Appalachian Coals, Inc.

A. A. Raymond, superintendent fuel and locomotive performance, New York Central.

R. A. Sherman, supervisor fuels division, Battelle Memorial Institute.

THURSDAY, NOVEMBER 29
9:00 a. m.

Railroad Division

Railroad Motive Power Trends, by R. P. Johnson, chief engineer, The Baldwin Locomotive Works.

Discussors:

C. W. Meyer, assistant to president, New York Central.

J. V. B. Duer, assistant to vice-president, Pennsylvania.

C. E. Pond, assistant to superintendent motive power, Norfolk & Western.

12:00 Noon

Luncheon.

2:00 p. m.

Railroad passenger cars—1946 Models, by A. W. Clarke, assistant general mechanical engineer, American Car and Foundry Company.

Discussors:

D. C. Turnbull, Jr., executive assistant, Baltimore & Ohio.

H. F. McCarthy, executive assistant to president, New York, New Haven & Hartford.

P. W. Kiefer, chief engineer, motive power and rolling stock, New York Central.

F. L. Murphy, chief engineer, Pullman-Standard Car Manufacturing Company.

K. F. Nystrom, chief mechanical officer, Chicago, Milwaukee, St. Paul & Pacific.

Col. E. J. W. Ragsdale, chief engineer, Railroad Division, The Edward G. Budd Manufacturing Company.

Tests of Oil-Film Journal Bearings for Railroad Cars, by S. J. Needs, Kingsbury Machine Works, Inc.

8:15 p. m.

Joint Session Railroad and Applied Mechanics Divisions.

U. S. Signal Corps Photos

Gray Presents Nazi Emblem

Maj. Gen. Carl R. Gray, Jr., director general of the Military Railway Service, addresses a group of French railway officers during the recent presentation by U. S. army railroaders of the Nazi eagle (shown below) as a trophy to the French National Railway Society

* * *

Crank-Pin Design for Locomotives, by O. J. Horger, chief engineer, Railroad Division, Timken Roller Bearing Co., and W. I. Cantley, mechanical engineer, A. A. R., Mechanical Division.

Design and Application of Rail Transportation Gearing, by D. R. Meier and J. C. Rhoads, General Electric Company.

September Truck Traffic

Motor carriers reporting to American Trucking Associations, Inc., transported in September 1,309,914 tons of freight, a decrease of 7.1 per cent below the 1,410,132 tons transported in August and a drop of 10.2 per cent under September, 1944's total of 1,458,086. The A. T. A. index number, based on the 1938-1940 average monthly tonnage of the reporting carriers, was 158.83 for September as compared with August's 171.58.

The foregoing figures, according to the A. T. A. statement, are based on reports from 191 carriers in 36 states. Truckers in the Eastern district reported tonnage decreases of 6.9 per cent below August and 13.4 per cent below September, 1944. In the Southern region business was off 5.4 per cent from August and 5.1 per cent from September, 1944, while the declines in the Western district were, respectively, 8.7 per cent and 4.7 per cent.

Realistic Transport Policy Badly Needed

(*Continued from page 721*)

equal opportunity to do for the people of this country the work which each one of them can do best.

"The importance of investment in transportation facilities can hardly be overestimated. The best illustration of its importance is the contrast between transportation on American railroads, where every man's capacity is multiplied and his work eased by the plant and equipment provided by investment, and transportation in the interior of China, remote from railroads, where the human-bearer must work with his own unaided muscle. Working as hard as man can work, the Chinese carrier can earn for himself no more than a cent an hour—but the transportation service which he so laboriously produces costs the user as much as 30 cents per ton per mile. The American railroad worker, on the other hand, using an average of $6,500 worth of rolling stock and $13,500 worth of roadway per man employed, earns a wage averaging nearly a dollar an hour—but the transportation service which he produces is sold for an average of less than one cent for hauling a ton of freight one mile."

Omaha Railroader Awarded Bronze Star Medal

Capt. Omer T. Tormoen, of LaCrosse, Wis., a former Chicago, St. Paul, Minneapolis & Omaha statistical clerk, who since February, 1943, has served in England, France and Belgium with the 755th Railway Shop Battalion, recently was awarded the Bronze Star Medal, at Kusel, Belgium, for "meritorious service and conscientious devotion to duty."

In addition to being adjutant of the 755th, Captain Tormoen works also as public relations and athletic officer.

General Williamson Goes with Truck Lines

Brig. Gen. William J. Williamson has been elected vice-president of the American Transportation Company and the Standard Freight Lines, trucking companies with headquarters in Chicago. General Williamson entered the service of the Transportation Corps of the U. S. Army in 1942, and served as a civilian executive for a few months until he was appointed a colonel. He received his commission as a brigadier general a year and a half later and throughout the war, until his retirement a few weeks ago, directed domestic traffic control for the Transportation Corps. General Williamson received his railway training on the Great Northern and at the time of joining the Transportation Corps he was general traffic manager of Sears Roebuck & Co., Chicago.

With the Government Agencies

Land Grant Repealer Gets House Setback

Objectors to veterans' farms fund provision send bill back to conference

The Boren bill to repeal remaining provisions of the land-grant-rate law got an unexpected setback at the final stage of its journey through Congress when the House on October 29 balked at the Senate's "veterans' farms fund" provision and rejected the conference report which had reconciled the differing Senate and House versions of the measure. The report was rejected by a roll call vote of 167 to 114 with 150 members recorded as not voting; and the House then followed through with adoption of a motion sending the bill back to conference.

While debate which preceded the House's adverse action included some protests against enactment of legislation which would have the effect of increasing the government's expenditures for transportation, the discussion in general reflected the members' dissatisfaction with the veterans'-fund provision. This was further indicated when some members of the committee on interstate and foreign commerce, who had been supporters of the House version, were found on the roll call's list of those voting to reject the conference report. They included Representatives Bulwinkle of North Carolina, Crosser of Ohio, and Patrick of Alabama, Democrats. Chairman Lea of the committee was among those recorded as not voting.

Not Country-Wide—The veterans' farms fund provision, as embodied in the conference report, would not affect the railroads. In general it would authorize the appropriation of $68,272,770 to a fund to be administered by the Secretary of the Interior and the Secretary of Agriculture for the purchase and improvement of lands in the reclamation and land-grant states for subdivision into farms for sale to veterans of World War II. As interpreted in the House debate, this would limit the application of the provision to 13 states, whereas the objecting members were opposed to such a program of veteran benefits unless it were of country-wide application.

The provision was originally designed as a substitute for proposals that the railroads be required to return to the government any granted lands still held and not used for carrier purposes. It valued such lands at the $68,272,770 figure and proposed to delay the effective date of repeal until that amount was saved by the government as a result of land-grant deductions after the bill's enactment date. Also, the original version would have kept account of the "savings" by requiring that railroad freight bills, submitted to the government after the enactment date, show the difference between the applicable land-grant rates and full commercial rates. The straight-out authorization for the appropriation was substituted upon advice of the Comptroller General, and meanwhile the conference report accepted the Senate version's October 1, 1946, effective date of repeal. As passed by the House, the bill would have made repeal effective 90 days after the enactment date.

Some Friends Vote No—When the conference report was called up in the House on October 29 by the bill's sponsor, Representative Boren, Democrat of Oklahoma, Representative Cochran, Democrat of Missouri, demanded a quorum call be-

(*Continued on page 730*)

Class Rate Changes Put Off to Jan. 1, 1946

Upon petition of the railroads, the Interstate Commerce Commission has further postponed to January 1, 1946, the effective date of its order in the No. 28300 proceeding requiring all lines east of the Rocky mountains to make an interim adjustment in class rates, pending the compilation of a uniform classification and the institution of permanent changes in class rates, based thereon, designed to secure greater territorial uniformity.

As noted in *Railway Age* of October 27, page 689, delays in printing the interim rate tariffs, resulting from a strike in Chicago job printing plants, led to the railroads' petition for a postponement in their effective date, which had been November 30. In view of the sweeping effect of the changes, it was considered particularly desirable to have the customary 30 days' notice apply, and it was not considered to be physically possible to make copies of the new tariffs available until early in December. An indication of the magnitude of the printing job was seen in figures included in the railroad petition, showing that, among others, 14,000 copies of a 1,430 page publication of Agent Kipp and 47,000 copies of a 212 page publication of Agent Jones would be required.

Division 2 of the commission, by Fourth Section Order No. 15410, has extended to the interim class rates established under the provisions of the order in No. 28300 all outstanding unexpired orders granting relief from long-and-short-haul restrictions with respect to existing class rates by all-rail, rail-water, and rail-truck routes.

W. F. Kirk Resigns Government Offices

War job as I. C. C. diversion agent hailed as "unique" by Col. Johnson

The resignation of W. F. Kirk as western director of the Railway Transport Department of the Office of Defense Transportation and as federal manager of the Illinois Central, effective November 1, was announced this week. He has been succeeded as I. C. federal manager by Homer C. King, whose appointment as O. D. T. deputy director, succeeding Brig. Gen. Charles D. Young, also was effective November 1, as reported in this issue.

The Illinois Central has been under the control of a federal manager since it was taken over by order of President Truman to avert an August 23 strike called by the Brotherhood of Locomotive Firemen & Enginemen. As noted in *Railway Age* of September 1, page 378, Mr. Kirk was appointed to the post by O. D. T. Director Johnson, to whom the President delegated authority to operate the line.

Returns to Mo. P.—In addition to his O. D. T. responsibilities, Mr. Kirk also served through most of the war period as diversion agent at Chicago for the Interstate Commerce Commission. Under authority delegated to him by Service Order No. 99, it was his duty to reroute or divert carload freight shipments or empty freight cars so that the capacity of railroads in the West would be utilized most effectively and congestion and delay would be minimized. This connection also was terminated November 1, at which time Mr. Kirk returned to the service of the Missouri Pacific, with which he began his railroad career in 1901.

Mr. King will handle his work as I. C. federal manager and as I. C. C. agent for rerouting traffic from the Washington, D. C., office of the O. D. T., according to a statement by that agency. The post of western director of the O. D. T. Railway Transport Department will be assumed by J. P. Kiernan, southern director, who also will maintain headquarters at Washington.

In commenting on Mr. Kirk's resignation, Colonel Johnson remarked that his complete control over the routing of rail traffic west of the Mississippi river for nearly three years had put him in a "truly unique position in the history of American transportation, . . . and we trust that no wartime emergency will ever again arise to call for such authority." "Kirk orders," the O. D. T. director added, have played a most important and essential role in enabling railroads in the West to carry their war load.

Extent of Diversions—Of these orders, Mr. Kirk reported that 316 were issued up to October 29. No less than 333,000 freight carloads were rerouted, of which 225,000 were rerouted to by-pass terminals; 25,000 rerouted on account of serious line interruptions, floods, tunnel fires, etc.; and 83,000 were rerouted from overloaded railroad lines to lines in a position to handle extra traffic.

Under General Order O. D. T. 7, Mr. Kirk added, 15,000 loaded and 15,000 empty tank cars were rerouted due to interruptions by floods in the Southwest and 141,000 loaded and approximately the same number of empty tank cars rerouted over eastern and southeastern lines to by-pass terminals and meet ever-changing operating conditions.

Since February, 1943, Mr. Kirk reported, the number of cars moving through the western measuring gateways totaled 7,061,933. Movement of cars into and out of California, Oregon and Washington averaged 8,301 daily in March, 1943, and increased to a daily average of 12,756 in June, 1945, the peak month. During the same period daily movements of extra passenger and mixed trains through ten key gateways on seven lines serving the West coast increased from 31 to 52.

It was necessary, chiefly to avoid congestion, Mr. Kirk said, to set off short of destination or terminal an average of 1,055 cars per day in 1943, but only 192 in 1944. The number decreased until it reached zero in 1945.

From the beginning of 1943 traffic to the West coast continued to mount steadily, unloadings at West coast ports increasing from 30,448 carloads in February, 1943, to a peak of 82,859 in May, 1945. A striking picture of the growth of war-time traffic to that area, Mr. Kirk said, is shown by the increased freight business of seven roads serving the West coast. Loaded car-miles on these lines increased from a monthly average of 272,329,000 in 1940 to 509,821,000 in 1945 and empty car-miles increased from 164,051,000 in 1940 to 234,906,000 in 1945. The increase in total car-miles per month for 1945 over 1940 was 307,347,000 or 70 per cent. At the same time passenger train-miles on these roads increased, chiefly because of troop movements, from a monthly average of 6,250,000 in 1940 to 8,500,000 in 1945, an increase of 36 per cent.

"While there was justified apprehension regarding the ability of the western carriers to meet the war transportation requirements," Mr. Kirk said, "it is now history that they performed the task and did it well, but it was accomplished only by close cooperation between themselves and with this office."

Halts Stockpiling of All District 8 Coals

The Solid Fuels Administration for War has suspended all stockpiling of District 8 (Southern Appalachian) coals during November "in an effort to provide a more adequate supply of fuel for retail yards and to help free tonnages for industries with low fuel reserves."

Under the direction, no railroad or other type of industrial consumer can obtain more than enough District 8 coal to meet November consumption requirements, regardless of how little coal it has in stockpiles. This, however, does not apply to shipments from the Great Lakes docks. The S. F. A. announcement further said that shipments of coal produced in the district, if forwarded to a railroad by all-rail routes during November, must be limited so that the railroad will have no more than a 10-day supply on hand at the end of the month. If the railroad receives coal from the district by rail and river or tidewater routes during November, it can have no more than a 20 days' supply on the last day of the month.

Status of Frisco Roadmasters

Roadmasters of the St. Louis-San Francisco are included within the definition of employees or subordinate officials of common carriers by railroad provided in the orders of the Interstate Commerce Commission now in effect, according to a Division 3 report in Ex Parte No. 72 (Sub-No. 1). An A. F. of L. affiliate, the International Federation of Technical Engineers, Architects & Draftsmen's Unions, had petitioned for an interpretation or amendment of the defining order to bring these roadmasters within the meaning of section 1 of the Railway Labor Act.

The carrier had contended that men holding the 37 positions involved were officials, inasmuch as it employs no division roadmasters and does not assign responsibility for an entire division to one man. The division held that these roadmasters' duties, rank and title are less than those of division roadmasters, and not more important than those usually delegated to subordinate officials.

General Young Leaves O. D. T.; King Succeeds Him

The resignation of Brig. Gen. Charles D. Young, deputy director of the Office of Defense Transportation, effective October 31, was announced this week. Homer C. King, who has been executive assistant to O. D. T. Director J. Monroe Johnson since April 10, 1944, was named to the deputy directorship, succeeding General Young, who returns on November 1 to his peace-time duties as the Pennsylvania's vice-president in charge of real estate, purchases and insurance, with headquarters at Philadelphia, Pa.

General Young was a member of the O. D. T. organization when it was first set up by the late Joseph B. Eastman early in 1942, at which time he was appointed head of the Materials and Equipment Section. As he was an officer in the Engineers Reserve, U. S. Army, as a result of service in World War I, he was recalled to active duty with the Army a few weeks later, and in March, 1942, he became director of procurement and distribution in the Army Service Forces. In July of the same year, however, he reached the Army retirement age, whereupon he was placed on inactive status with the rank of brigadier general.

Returning then to the O. D. T., General Young was named assistant director by Mr. Eastman, and on January 1, 1943, he became deputy director. One of his principal responsibilities during his tenure of these positions had to do with the provision of materials and equipment for the transportation industries, in which connection he represented the O. D. T. on the War Production Board's Requirements Committee. During the period between Mr. Eastman's death, March 15, 1944, and the appointment of Colonel Johnson as O. D. T. director, April 4, 1944, General Young served as acting director of the organization.

As the result of an international agreement effected on V-E Day, General Young was appointed American representative on the provisional executive board of the organization set up to plan the rehabilitation of European railway and waterway transportation facilities. He began railroad service with a Pennsylvania system line in 1900, and has been associated with that railroad ever since, being on leave for military service in World War I and for his O. D. T. service in the war just ended. Prior to his appointment in April, 1932, to a Pennsylvania vice-presidency, he was successively stores manager, system general purchasing agent, and assistant vice-president, purchases, stores and insurance.

Mr. King came to the O. D. T. with Colonel Johnson, having been director of the Interstate Commerce Commission's Bureau of Service, under the latter's supervision, since April, 1942. A sketch of his career appeared in *Railway Age* of April 15, 1944, page 737.

Fined for Elkins Act Violation

Advice has been received by the Interstate Commerce Commission, according to Secretary W. P. Bartel, that the Kansas City Southern on October 22 pleaded *nolo contendere* to an information in 25 counts filed against it in the federal court at Beaumont, Tex., and that the court thereupon imposed a fine of $7,500. The information, based on an investigation by the commission's Bureau of Inquiry, charged the road with granting concessions, solicited by a shipper, in violation of section I of the Elkins Act.

The cases involved carload shipments of iron and steel plate upon which the lower freight rate applicable to scrap iron having a value for remelting purposes only was assessed and paid instead of the higher rate on plate which was lawfully applicable.

Ex Parte 148 Rate Suspension Extended by I. C. C.

The Interstate Commerce Commission has extended until "a date six months after the legal termination of the war" the suspension of freight rate increases originally granted in the Ex Parte 148 proceedings.

The railroads had previously filed with the commission their consent to further suspension of the increases for such periods beyond January 1, 1946, as it might see fit (as reported *in Railway Age* of August 25, page 343), but the Secretary of Agriculture, the National Association of Railroad and Utility Commissioners, and many individual state commissions had asked that the proceedings be discontinued and that a date not later than March 2, 1946, be fixed for the expiration of the original order allowing the increases.

The order in Ex Parte 148 authorizing the increases was made effective until six months after the end of the war, and the effect of the suspension extension is to keep

the proceedings alive that long after termination of the war is formally accomplished, either by the ratification of a peace treaty or by appropriate action of Congress or the President. The order extending the suspension specifically provides unrestricted opportunity for further action by the commission, or filing of petitions by any party either for cancellation, restoration, or reduction in whole or in part of the increases originally authorized. By denying the petition and motion seeking permanent termination of the cases, without restoration of the increases, on or before next March 2, the commission has in effect avoided taking any position as to the date marking the end of the war.

All But 87,000 Troops Will Return by July 1, 1946

Approximately three and three-quarters million men will have been returned or will be on their way to the United States by July 1, 1946, according to the latest schedules announced by the War Department last week. Of the total, 2,100,000 will be from Europe, the Middle East, and the Atlantic areas, and 1,600,000 will be from the Pacific. Only the 870,000 troops required for the armies of occupation and garrison duty will remain overseas.

Meanwhile, the statement revealed, 293,000 men have been returned from the Pacific since V-E Day, while Christmas will find 366,000 more at home and another 125,000 en route. Through October 15, 1,716,000 troops have arrived from Europe and the Mediterranean. Those returned from the China and Burma-India theaters totaled 31,000, and 95,000 arrived from all other areas. Thus the total brought home since V-E Day is 2,135,000, the rate being "nearly 3½ times faster than troops were returned in the first five months following World War I."

I. C. C. Accident Report Urges Electric Switch-Locking

Another recommendation that electric switch-locking be installed at main-track hand-operated switches in high-speed territory has resulted from an Interstate Commerce Commission investigation of a head-end collision at 4:14 a. m. on September 23 at Prosser, Wash., involving eastbound and westbound sections of the Northern Pacific's "North Coast Limited." The immediate cause of the accident, according to the report prepared under the supervision of Commissioner Patterson, was a switch being opened immediately in front of an approaching train.

In the vicinity of Prosser, which is 39.9 miles west of Pasco on the main line between Spokane and Tacoma, operation on the single track is by timetable, train orders, and an automatic block signal system. There is a passing siding at Prosser, and the collision occurred on this siding at a point 335 ft. east of its west switch.

The westbound train, Second No. 1, had taken the siding as required by a train order, and was standing awaiting passage of the eastbound train. The eastbound train, First No. 2, was moving about 60 m.p.h. as it approached Prosser, the authorized speed being 70 m.p.h. Signals displayed proceed until the engine of the eastbound train was about 150 ft. west of the signal nearest the west switch, when its indication changed to stop as a result of the switch being opened. The brakes were applied in emergency, and the speed was reduced to about 40 m.p.h. by the time the engine had reached the switch (about 950 ft.) and to about 30 m.p.h. when the collision occurred. One employee was killed and 104 passengers, 3 mail clerks and 5 employees were injured.

Investigation disclosed that the front of Second No. 1 was confused about the meet order and had lined the switch for the eastbound train to take the siding under the mistaken impression that his own train was occupying the main track. If the switch had been provided with electric switch-locking, the commission's report observed, "it would not have been possible to operate the switch immediately in front of First 2." Over a period of 14 years, it pointed out, the commission has investigated 18 accidents, in addition to this one, which resulted from switches being opened immediately in front of approaching trains.

O. D. T. Sees No Early Let-up in Demand for "Reefers"

An Office of Defense Transportation "warning" that the refrigerator car supply will continue "extremely tight" through the first quarter of 1946 accompanied its October 26 report of "notable savings" in the use of refrigerator cars during the war period, accomplished through the effective cooperation of the Refrigerator Car Lines Advisory Committee.

The car lines and the railroads, the statement explained, had during the war to provide more and more transportation of perishable products, with less and less equipment. For instance, 1,680,963 cars of perishables originated in 1941, and 2,233,433 in 1944. Loaded mileage increased from 2,044,000,000 in 1942 to 2,695,000,000 in 1944. The percentage of empty mileage was reduced from 43.8 in 1942 to 35.3 in 1944. Tonnage of perishable products per car increased from 18.02 in 1941 to 23.01 in 1944.

While congratulating the advisory committee on this achievement, Director J. Monroe Johnson pointed out that strenuous efforts must be continued to make the most efficient use of the refrigerator car supply.

Army Freight Consolidating Activities Cut

Effective November 1, operations of the Army-Navy consolidated car service have been restricted to shipments in both directions between the Chicago Army-Navy consolidating station and the New York and Philadelphia stations and to westbound shipments from these three stations to points in Utah, Idaho, Nevada, California, Oregon and Washington, the War Department has announced.

The move eliminated eastbound transcontinental shipments and shipments to and from Texas and the southeastern territory which have been handled by the consolidated car service. Effective November 1, also, the Army-Navy consolidating stations at Cleveland, Ohio, San Antonio, Tex., and St. Louis, Mo., and the Army-Navy freight distributing agencies in Atlanta, Ga., El Paso, Tex., San Francisco, Cal., and Tacoma, Wash., were discontinued.

Consolidated car operations that were handled by the St. Louis and Cleveland stations will be handled by the Chicago station; the functions of the San Francisco agency have been transferred to the Oakland freight distributing agency, and Tacoma shipments revert to the Seattle agency.

National Labor Parley Includes Railway and Union Heads

The White House has announced the general topics to be considered by the so-called Labor - Management Conference scheduled to begin its deliberations in Washington, D. C., on November 5. The aim of this conference is said to be the formulation of policies and procedures by which industrial disputes can be minimized, successful collective bargaining facilitated, union jurisdictional controversies lessened, and grievances peaceably adjusted.

President Truman has named Walter P. Stacy, a judge of the North Carolina Supreme Court, as presiding officer of the conference. A member of the National Railway Labor Panel, Judge Stacy has had considerable experience, as a member of several emergency boards, in the disposition of wage controversies and related questions arising under Railway Labor Act procedures.

Included in the group selected to represent management in the conference is Martin W. Clement, president of the Pennsylvania. Union spokesmen include George M. Harrison, president of the Brotherhood of Railway & Steamship Clerks, and Thomas C. Cashen, president of the Switchmen's Union and chairman of the Railway Labor Executives Association. Among the alternate members named for "labor" are A. E. Lyon, executive secretary of the R.L.E.A., Elmer E. Milliman, president of the Brotherhood of Maintenance of Way Employees, and Charles J. MacGowan, president of the International Brotherhood of Boilermakers.

The Administration's wage policy was further defined by President Truman in an October 30 radio address which in general called for both higher wages and a holding of the price line. The President argued that industry was in a position to pursue that course. At the same time he issued an executive order amending his August 18 order which established the reconversion wage policy. As noted in the *Railway Age* of August 25, page 344, the August 18 order authorized wage increases without government approval, provided they are not used as a basis for seeking increases in price ceilings or resisting otherwise justifiable reductions in prices. Also, it broadened the War Labor Board's authority to approve increases to correct "gross inequities."

The amendment further broadens the order, adding three new tests which W.L.B. or other government agencies may use in approving increases. They cover increases where the percentage rise in average straight time hourly earnings since January, 1941, has not equalled the percentage increase in the cost of living between January, 1941, and September, 1945; increases necessary to correct inequities in wage

rates or salaries among plants in the same industry or locality, with due regard to normal competitive relationships; and increases necessary to insure full production in an industry, designated by the stabilization director, which is essential to reconversion and in which existing wage rates or salaries are inadequate to the recruitment of needed manpower.

The new order also authorizes the stabilization director to define additional classes of wage or salary increases which may be approved as necessary to correct maladjustments or inequities. It also provides that wage increases granted outside the provisions of the order shall after the expiration of a reasonable test period, be taken into account by the Office of Price Administration in passing upon applications for price increases. The reasonable test period is defined in the order as six months "save in exceptional cases."

Says Convention Ban "Saved" a Billion Passenger-Miles

Nearly a billion passenger-miles were "saved" during the eight months' duration of the "convention ban," according to the Office of Defense Transportation.

Reviewing the work of its War Committee on Conventions, the ODT pointed out that during the period February-September 1945, reductions in the number of conventions resulted in (1) direct savings in hotel occupancy and transportation on conventions for which approval was denied; (2) semi-direct savings in hotel occupancy and transportation on conventions already scheduled but voluntarily abandoned; (3) indirect savings in hotel occupancy and transportation as a result of the aid given by the convention order to "don't travel" pleas.

The convention ban expired October 1, and the committee ended its work on October 22. During the committee's existence, 4,095 convention applications were reviewed, of which 495 were approved. The anticipated attendance at the gatherings for which permission to meet was refused was estimated at 3,248,775. Based on the estimated use of rail transportation by 55 per cent of persons attending, and an estimated average round trip of 310 miles per passenger, there was a "saving" of 965,570,250 passenger-miles.

The O.D.T. pointed out that the curtailment of travel continued after October 1; as it takes several months to prepare for a large convention very few "really sizeable" conventions will be held during the remainder of 1945.

Wheeler Says Reorganizations Move Too Slowly

The views of the Interstate Commerce Commission with respect to proposed legislation designed to afford a means of relief short of reorganization for railroads unable to meet maturities or interest charges were expressed by Commissioner Mahaffie at a Senate interstate commerce committee hearing October 31. The bill under consideration (S. 1253) was introduced by Senator Wheeler, Democrat of Montana, chairman of the committee, at the commission's request, and its reasons for desiring the enactment of such legislation were set forth in a letter to the senator from Commissioner Splawn, chairman of the commission's legislative committee, as noted in *Railway Age* of July 21, page 117.

In the course of the hearing Senator Wheeler, with the concurrence of Senator Reed, Republican of Kansas, expressed the opinion that many railroads now in process of reorganization have sufficient funds, as a result of record wartime earnings, to bring such proceedings to a close without further delay, and that an investigation by Congress would be in order to determine why reorganization procedure is so prolonged, especially when the railroads involved have substantial accumulations of cash available toward their termination.

The Wheeler bill would in some respects amplify the provisions of the so-called McLaughlin Act of 1942, under which arrangements for the postponement of maturities or interest payments or modification of railroad security terms and capital structures can be effected with court approval without subjecting the company to reorganization proceedings. That act in turn amounted to a re-enactment of the Chandler Act of 1939. The McLaughlin Act expired November 1, although a bill (H. R. 3429) to extend its life for five years was awaiting House consideration at that time.

New Member Named to Senate's Interstate Committee

Appointment of Senator Huffman, Democrat of Ohio, to the Senate committee on interstate commerce has resulted in a slight change in the political complexion of that body, as he replaces Senator Gurney, Republican of South Dakota, who resigned to take another assignment. Senator Huffman was appointed to the Senate to succeed Senator Burton upon the latter's selection for a place on the Supreme Court.

Would Tighten I.C. Act Control Over Acquisitions

Protesting against his colleagues' condonation of what he called the "process of infiltration" whereby Greyhound Corporation has increased its interest in the Cincinnati & Lake Erie Transportation Company, Interstate Commerce Commissioner Mahaffie has suggested that the commission give consideration to legislative recommendations calculated to check the process. The suggestion came in Mr. Mahaffie's dissent to Division 4's report in No. MC-F-2944, which dismissed for lack of jurisdiction a Greyhound Corporation application for authority to purchase additional voting trust certificates representing 3,500 shares of C. & L. E. stock.

The applicant already owned certificates for 6,500 shares or 19.87 per cent of the total C. & L. E. stock outstanding, and the additional 3,500 would give it certificates covering 30.57 per cent of the total. The purchases were said to have been made "primarily for investment," and "secondarily" to place Greyhound in a position to acquire control of C. & L. E. in the future, subject to commission approval. The majority report went along with applicant's contention that the Interstate Commerce Act's acquisition-of-control provisions (section 5) do not apply, since the transaction would not "necessarily" result in an acquisition of control.

Dissenter Mahaffie thought the "broad" language of section 5(4) could be applied to the transaction; for it seemed to him "extraordinarily naive to assume that the management of a company in the present position of C. & L. E. would be likely to oppose very vigorously any interest or known desire of its part proprietor and possible future owner." It is "even less likely if the increased investment now proposed is permitted," Mr. Mahaffie added.

"Such a process of infiltration as this in the guise of 'investment' very effectively limits competition in the bus business," he went on. "It puts important properties 'on ice.' They can combine or affiliate with no other than the Greyhound system. If affiliation of this sort is to be permitted it should be only on a finding by us that it is consistent with the public interest. On the basis of this report Greyhound can proceed by similar transactions to dominate the more desirable units of the industry. Such domination could by this means be extended to the industry as a whole. It need be restrained only by its own sense of propriety.

"I do not think that standard one on which the public should have to rely. Already the process of infiltration such as this report would permit has gone far. I am inclined to think it desirable that consideration now be given to legislative recommendations calculated to check it. Perhaps the acquisition of any interest by one carrier in another without approval should be made unlawful."

The majority report was adopted by vote of the other two members of Division 4, Commissioners Porter and Miller; but the former filed a separate concurring expression in which he said he also agreed "as to the desirability of additional legislation." In voting for adoption of the majority report, Mr. Porter said he did so "fully conscious of the growth and development of the Greyhound Corporation." At the same time he found no indication of past or present control of C. & L. E. by Greyhound, nor anything to justify the conclusion that Greyhound "will exercise or attempt to exercise such control in the future."

King Named I. C. C. Diversion Agent; Authority Extended

The Interstate Commerce Commission has appointed Homer C. King, newly named deputy director of the Office of Defense Transportation, as its agent with authority to divert or reroute carload freight traffic and empty freight cars whenever, in his opinion, such action is necessary to avert or relieve congestion on any railroad line in any section of the country. This authority is delegated in Revised Service Order No. 99, effective November 1 through April 30, 1946, unless otherwise directed.

By this action the commission has in effect extended for an additional six months the authority which was vested for most of the war period in W. F. Kirk, but has removed territorial limitations on the diversion agent's authority and made it applicable to both intrastate and interstate traffic. As noted in *Railway Age* of October 20, page 661, the commission recently issued an order terminating as of November 1 the arrangements for diverting and rerouting car-

load traffic and empty cars which were instituted in February, 1943, but this termination has been offset by the revised service order.

The conclusion of Mr. Kirk's service as I. C. C. diversion agent coincides with his relinquishment of other government transportation responsibilities, as noted elsewhere in this issue. Mr. King also has succeeded him as federal manager of the Illinois Central, at the same time becoming O. D. T. deputy director in succession to Brig. Gen. Charles D. Young, as reported herein.

Reports Progress in Restoring German Rail Lines

Many of Germany's railroad lines already have been returned for operation to the civilians who ran the German state railways before the war, according to Col. Dawes E. Brisbine, former chief of the Transportation Corps' Military Railway Branch and now deputy director in Germany of the Transport Division, U. S. Group Control Council, who has recently returned to the United States. Plans of the division call for turning over more lines to German civilian control as soon as competent personnel are found, he added, but operations will remain under strict Allied supervision.

The director of the division is Brig. Gen. John A. Appleton, who moved to this post from his position as advisor on rail operations on General Eisenhower's staff. The principal aim of the division, it was explained, is to plan for sufficient transportation to maintain a minimum civilian economy after the needs and requirements of United States troops as occupation forces are met. The control council is responsible for policy and planning for all forms of German transportation. Each transport division is dependent on military forces for rehabilitation of essential facilities under this guidance. In the American sector, Maj. Gen. Frank E. Ross, chief of transportation, E. T. O., is in charge of rail, highway, inland waterway, port and coastal shipping facilities.

Emphasis on transport rehabilitation is on rail lines, Col. Brisbine pointed out, since 80 per cent of Germany's traffic before the war moved by rail. Inland waterways moved 17½ per cent and only 2½ per cent moved by highway. One of the principal reasons for the defeat of Germany, he emphasized, was the breakdown of the country's transportation facilities, and for this opinion he quoted admissions to Transportation Corps officers of the late Dr. Julius Doerpmuller, the Nazis' minister of transport and former general manager of the German state railroads.

Under Doerpmuller's direction, Nazi Germany built one of the great railroad networks of the world, Colonel Brisbine stated. The Reich rail lines were 30 per cent to 40 per cent overpowered and overequipped, and in January of this year Germany still had 38,000 locomotives and approximately a million cars. Her railroads were "overtracked" in many areas where heavy military traffic was anticipated. Where two tracks were needed, three were provided, and where traffic justified only a single track, two were built. The emphasis placed on maintenance by the methodical Germans was indicated by a statement Doerpmuller made that "We never had a hotbox."

Germany had plenty of fuel for its trains and suffered only from a shortage of copper and white metal. Despite the intensity of Allied air attacks, approximately 6,000 locomotives and some 70,000 cars have been uncovered in the American zone alone, according to reports of the transport division. But rail operations were impeded and finally stifled by bombing of bridges, yards and other critical points on rail lines.

Water traffic on the Rhine opened on September 1, Colonel Brisbine reported. The channel in the American zone was cleared by August 13, but work on the British sector was not completed until later. The American sector of the Danube also is open to limited traffic. The most critical transportation shortage in Germany is highway transport, Colonel Brisbine said. Although 75,000 vehicles, principally small trucks and some buses, were discovered in the American zone, it is believed that this supply will be barely enough to care for this year's harvest and for a small part of local cartage requirements. Many of these vehicles are not in operating condition due to the severe shortage of batteries, tires and replacement parts. There is no shortage of lubricants. Inter-city hauling by highway continues to be negligible.

Land Grant Repealer Gets House Setback

(*Continued from page 726*)

cause "hundreds of millions of dollars are involved," and he thought the membership should be present. Mr. Boren then took the floor to explain the bill and to recall that the House had twice approved it "by an overwhelming vote, in one instance by a vote of only 17 in opposition."

With respect to the veterans' farms fund provision, Mr. Boren emphasized that it was "only an expression of principle, an authorization," which would require further action by the committee on appropriations and the House before any money actually became available. Among the protests against the amendment were assertions that it was "sugar-coating" for the repealer, and "a sop to make the whole thing more palatable." The principal speeches in opposition to the land-grant-rate repeal phases of the bill were made by Representative Cochran and Representative O'Hara, Republican of Minnesota, the only member of the committee on interstate and foreign commerce who dissented from that committee's favorable report on the House version of the bill.

Langer Opposed—Meanwhile the Senate had adopted the conference report on October 26 after listening to an opposition speech by Senator Langer, Republican of North Dakota. Senator Bilbo, Democrat of Mississippi, who had filibustered for two days when the bill was originally before the Senate, did not oppose the conference report. He was satisfied because the report retained the October 1, 1946, effective date; for he expects the transportation of war materials and military personnel to be finished by that time. Then, he added, the bill "will not mean anything," because the Transportation Act of 1940 has already removed the land-grant deductions from transportation charges paid by the government on non-military traffic.

Senator Langer, on the other hand, asserted that "by the passage of the bill the common people are being robbed of hundreds of millions of dollars." He considers it "more of a steal than Teapot Dome, even if it had been carried out to its full extent." Thus he wanted "the Record eternally and everlastingly to show that the bill was passed and the conference report was accepted in spite of the fact that the voice of the senior senator from North Dakota was raised in opposition to it."

I. C. C. Service Orders

The life of Interstate Commerce Commission Service Order No. 354, authorizing rerouting of traffic routed over the Toledo, Peoria & Western which that carrier cannot handle due to a strike, has been extended from October 31 to December 31 by Amendment No. 1 to the order.

By Service Order No. 360 the commission has prescribed a 60 net ton minimum weight for certain Norfolk & Western flat-bottom high-side gondola cars of 180,000 lb. capacity, in movements from Gary, W. Va., to Gary, Ind., in order to make use of equipment that otherwise would be idle. The order is effective November 16 through May 31, 1946, unless otherwise directed.

In view of the existence of a "critical shortage" of box cars on the Great Northern, the commission, by Service Order No. 362, has directed the Western Pacific to deliver to the G. N. at Bieber, Cal., not less than 10 empty serviceable box cars daily, of any ownership except Canadian, in addition to G. N. cars returned through that point, during the period October 31 to November 30, inclusive.

The provisions of Service Order No. 357, authorizing the use of empty refrigerator cars for the shipment of fruit and vegetable containers from certain points to Texas-Rio Grande valley destinations, have been modified, effective October 31, by the inclusion of Turney, Tex., in origin points affected.

The provisions of Revised Service Order 99, reinstating an I. C. C. agent with authority to reroute or divert carload freight, are noted elsewhere in this issue.

Commerce Department Report Assays Transport Situation

The latest industry report on "Domestic Transportation" issued by the Transportation Unit of the Department of Commerce's Bureau of Foreign and Domestic Commerce characterizes itself as an undertaking "to describe the changes in rail freight service which have occurred during the war period, together with their causes and effects, and to evaluate these changes in terms of a national transportation policy looking toward an adequate, attractive, and economical service to shippers and a high level of carrier efficiency." The report, including statistical tables and charts, covers 35 mimeographed sheets.

Its general conclusions include a finding

that "by far the most significant development during the war has been increased efficiency and economy to the carriers resulting from heavier loading of freight cars." In this connection shippers and receivers of freight are given due credit "for holding car detention to low levels despite initial experimentation with heavier loading."

With respect to post-war railroad freight service, the report suggests that "the most significant problem of public policy" revolves about methods to retain the heavier loading. In the same connection, the general conclusions had this to say: "The vast potential economies which may lie in adaptation of heavier loading practices to commercial requirements, with sizable reductions in rates as an incentive, suggest that additional steps be taken by the carriers, shippers, and regulatory bodies to investigate the most expedient method of extending the plan to its practicable limit."

The report's more detailed discussion of this matter of alternative rates with alternative minimum weights had undertaken to survey the opinion of shippers and regulatory authorities with respect to the matter. It found such opinion "divided," but nevertheless holding that "under certain sets of circumstances, this rate basis may be justified in the best interests of all parties concerned." The report includes figures showing economies made possible to the carriers by heavier loading, and it finds such data suggesting "that substantial net savings to society would result, even after allowing for higher costs to industry in individual instances."

Meanwhile the report had summed up its findings as to service trends in railroad freight transportation during the war period, making three general observations as follows:

"First, the service rendered military and essential civilian shipments was equal to or even above normal standards of service.

"Second, the service rendered less essential freight shipments was, on the whole, slower, less frequent, less dependable and less convenient than peacetime service, and rail transportation and related costs to shippers increased.

"Third, the standards of service maintained by the railroads during the war, when consideration is given the quantity of service rendered and the difficult operating conditions, were equal to what should have been expected of the carriers."

Bill Introduced

Representative Sikes, Democrat of Florida, has introduced H. R. 4487 "to require common carriers by railroad to install reflectors on railroad cars."

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since October 13, and which are of interest to railways:

Asphalt Roofing—Retention of the standardization and simplification order, L-228, was recommended by the asphalt roofing industry advisory committee at its recent meeting, the W. P. B. reported recently. The order, which limits production of asphalt and tarred roofing products and asphalt shingles to the grades, styles and sizes specified, was originally issued in November, 1942, effective January 1, 1943.

Committee members stated that if L-228 is lifted, extreme competition within the industry would force it to manufacture sizes, styles, and weights now prohibited but which are desired by the consumers. This, they said, would result in a decrease of approximately 10 per cent in overall production.

Prices

Electrical Wire and Cable—MPR 82, a revision of RPS 82, supersedes all others governing sales of electrical wire and cable and will include on its pricing lists every type of wire conducting electricity, including aluminum and nickel-alloy. The old regulation, O. P. A. said, priced only copper, copper-clad and copper alloy wire.

Omitted, however, from the pricing lists of the new regulation are cable accessories and portable "trouble lamps," formerly under RPS 82, which have been transferred to RMPR 136—Machines, Parts and Industrial Equipment.

Pricing methods under the new regulation will be based, O. P. A. said, on the prices of various types of electrical wire in effect on the base dates. These dates are October 15, 1941, for copper wire and March 31, 1942, for electrical conductor wires of other metals which do not contain copper. An exception, however, will be used for wire, both bare and insulated, but even in this case the pricing procedure will be relatively the same as that heretofore employed.

Poles and Piles—Manufacturers' ceilings for stabilization poles and piling will be set after October 30, under the regulation that now controls prices of longer lengths of poles and piling, the O. P. A. said recently. This change means that manufacturers will apply to O. P. A. for ceilings, which will be set individually and which will take into account the fact that this material is bought on special order and on widely varying specifications, according to the order of the purchaser. The former March 1942 "freeze" prices on manufacturers' sales of these products were not flexible enough to make allowance for these variations, the agency said.

At the same time, O. P. A. provided that concentration yards, treating plant yards and distribution yards may take mark-ups on less than carload sales of poles and piling taken from regular stock. These mark-ups will compensate for the additional expense involved in handling small quantities of material.

Southern Pine—Because of extensive cancellation of war contracts for lumber resulting from the war's end, the O. P. A. has opened the field of direct-mill distribution to all wholesalers or commission men handling Southern pine lumber, except those controlled by lumber producers, by Amendment 12 to Second RMPR 19, effective October 12. Each wholesaler or commission man desiring to qualify as a direct-mill distributor must register with the O. P. A. national office and obtain a registration number. This number must appear on all invoices. Those already assigned numbers need not re-apply.

The mark-up for wholesale type sales of southern pine lumber by a direct-mill distributor is six per cent but not to exceed $3 per M f.b.m., and the mark-up on commission type sales is four per cent but not to exceed $2. Up to this time, except in the case of new distributors, the wholesale type and commission type mark-ups could be charged only by a direct-mill distributor whose volume of wholesale type or commission type lumber from March 1, 1943, through August 31, 1943, was 5,000,000 f.b.m., or more, or at least 75 per cent of his total volume of lumber sales during that period.

In the case of new distributors O. P. A. required that the new distributor, in order to charge the mark-up, had to complete delivery of 1,000,000 f.b.m. of southern pine lumber within six months on orders from the Central Procuring Agency or to prime contractors for whom C. P. A. previously purchased lumber. During this six-month period they were required to keep any mark-up charged in escrow. This mark-up had to be returned to the purchasers if they failed to deliver the 1,000,000 feet of lumber. Sudden ending of the war caused cancellation of war contracts and in addition, the C. P. A. practically discontinued buying lumber and, therefore, new distributors were unable to complete delivery of the required quota of lumber.

Supply Trade

Carl J. Dinic has been appointed executive assistant to the president of the **American Locomotive Company.**

William M. Blackmore has been appointed district sales manager of a southern sales and service office opened at Richmond, Va., by the **National Malleable & Steel Castings Co.**

L. D. T. Berg, for the past five years a sales engineer in **General Electric Company's** electric welding division, Schenectady, N. Y., has been appointed welding specialist of the company's Atlantic district with headquarters in Philadelphia, Pa.

James C. Magee has been appointed manager of the machinery department of **Iron & Steel Products, Inc.,** with headquarters at Chicago. **Charles A. Marshall,** manufacturers' representative in the southern West Virginia territory, has been appointed sales engineer, with headquarters also at Chicago.

Herbert A. May, assistant to the president of the **Westinghouse Air Brake Company,** Wilmerding, Pa., and vice-president of the **Union Switch & Signal Co.,** Swissvale, Pa., has been elected a member of the board of directors of both companies.

Herbert A. May

James B. Rosser, administrative assistant to the president of the **Pullman-Standard Car Manufacturing Company,** at Chicago, has been elected a vice-president in charge of sales of railroad equipment, with headquarters at New York. **Fred W. Alger** and **John C. Bell,** sales agents at Chicago, have been appointed assistant vice-presidents with the same headquarters.

John T. Schneider, assistant manager of the main plant at Portland, Ore., of **Timber Structures, Inc.,** has been elected vice-president in charge of production. **R. B. Fehren,** who formerly managed Timber Structures' eastern fabrication and sales activity out of the Trenton, N. J., plant, has been appointed to the executive staff of the company as vice-president in charge of sales with offices in Portland. Prior to his association with the company in 1943, Mr. Fehren was employed for 14

years with the Weyerhaeuser Sales Company as eastern sales promotion manager and manager of the Weyerhaeuser prefabrication division. The company recently opened a new sales office in Seattle, Wash., under the direction of **Andy Toth,** former district manager for Summerbell Roof Structures, Inc., to handle sales in Washington, Idaho, Montana and Alaska. Other offices are contemplated for the middle west.

E. J. O'Donnell, manager of the railroad department, has been appointed manager of transportation sales for the **Graybar Electric Company.** In his new

E. J. O'Donnell

assignment he will report directly to general headquarters in New York although he will be located in Chicago, where he has worked since joining the company in 1910.

Charles H. Morse III, whose election to vice-president of **Fairbanks, Morse & Co.,** with headquarters at Chicago, was reported in the *Railway Age* of October 27, is also president of the Inland Utilities Company (a subsidiary of Fairbanks, Morse.) In his new position he will be in charge of research, patents, and the western pump division on the parent company. Starting as a factory worker in the firm's

Charles H. Morse, III

plant at Three Rivers, Mich., 27 years ago, Mr. Morse worked his way through various departments of the plant, later being promoted to sales engineer, with headquarters at St. Paul, Minn. He subsequently served in a similar capacity at Memphis, Tenn., and Kansas City, Mo., until 1935 when he was elected president of the subsidiary concern, a position which he will retain.

B. G. Twyman & Associates have been appointed distributors for the **Electronic Laboratories, Inc.,** of Indianapolis, Ind., in Illinois and eastern Missouri, outside of the metropolitan districts of Chicago and St. Louis, Mo. The territory of **A. E. Rodman,** west coast representative, has been increased to include Nevada and Oregon.

Harry C. Dever has returned to the Glassport, Pa., division of the **Copperweld Steel Company** and has been placed in charge of the Atlanta, Ga., office to cover the states of Georgia, Florida, South Carolina and North Carolina. He has been on a three years' leave of absence with the armed forces. Prior to the war, Mr. Dever covered the southeastern part of the United States for Copperweld.

E. K. Goldschmidt has been released from active duty as a lieutenant commander in the naval reserve and has returned to the **Safety Car Heating & Lighting Co.** as representative in the Chicago office. Mr. Goldschmidt formerly was associated with the Safety Company from 1933 to 1942, at which time he enlisted and was assigned to duty with the industry cooperation division of the Navy in Washington, D. C., and Chicago.

Construction

MISSOURI PACIFIC.—Division 4 of the Interstate Commerce Commission has authorized this road to construct 2,984 ft. of track at Richards, Mo., to establish a connection with the Kansas City Southern and thereby obtain access to a coal mine.

BALTIMORE & OHIO.—The B. & O. has received authorization for the construction of new and improved coal handling facilities at Lorain, Ohio, at cost of about $3,000,000. The improvement will consist principally of a new car dumper, bulkheads, slips, and yard facilities sufficiently large to accommodate hundreds of cars. The order for the new car dumper, to cost more than a million dollars, has already been placed. It will be electrically operated and have a dumping capacity of a carload a minute.

A new location for the improved facilities has been secured on the lake front, permitting the elimination of the present facilities on the Black River, three miles from the lake front, access to which has been restricted by draw bridges. The new site for the car yards servicing the improved facilities has been made possible by cooperation of the City of Lorain in relocating certain streets. This work is already under way.

The new facilities, which are planned to be completed for the opening of the 1947 lake season, will make possible more expeditious handling of a heavier coal tonnage through the port of Lorain. The improvement will be carried out under the general supervision of A. C. Clarke, chief engineer, and under the immediate direction of E. F. Wright, regional engineer of the B. & O. at Pittsburgh, Pa.

Equipment and Supplies

LOCOMOTIVES

THE ALTON has been authorized by Federal Judge Philip L. Sullivan to purchase from the American Locomotive Company 10 Diesel-electric 1,000-hp. switchers at a total cost of $883,628. The order will consist of eight locomotives for $87,138 each, and two train-heater, boiler-type locomotives at $93,262 each.

FREIGHT CARS

The SOUTHERN PACIFIC has placed an order with the American Car & Foundry Co. for 50 all-steel, wood-lined cabooses to be built at an approximate cost of $317,000 and slated for delivery early in 1946. The new cabooses will be equipped with bay windows in accordance with Southern Pacific plans designed to replace cupolas.

PASSENGER CARS

B. & O. Plans Improved Passenger Service

On October 28, J. F. Whittington, assistant passenger traffic manager of the Baltimore & Ohio, announced plans for extensive improvements in service and equipment for post-war travelers. Fast daylight coach service between Chicago, Washington, D. C., and Baltimore, Md., cutting the present running time by several hours, is expected for next year. Also announced was the B. & O.'s intention to use "Vista-Dome" cars on its route through the Potomac Valley as soon as they can be obtained, with further installations on other routes within the next two years.

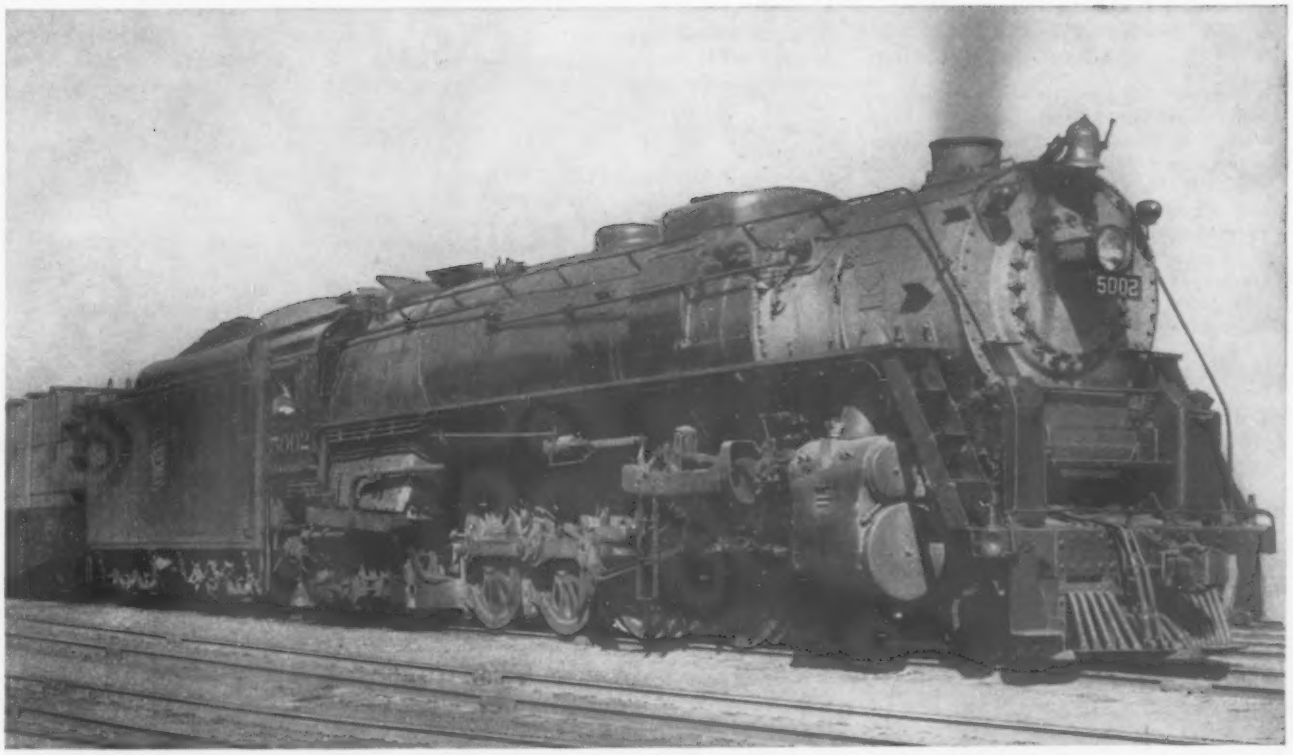
A new-type 24-roomette sleeping car with private facilities and easily adjusted beds is being planned to replace the standard 12-section cars now in general use. Several variations are being considered, one of which is equipped with duplex roomettes and double bedrooms. Luxury coach cars are also part of the post-war travel plans of the B. & O. A project is under way for a reclining chair car with comfortable seats adjustable for reading, reclining and sleeping. Also included will be a snack-bar at one end, and a card and lounge-room. A special car for mothers and children features a spacious playroom. Radical innovations in dining cars are being considered, including space for dancing, and, in a diner, accommodations for 48 table guests and ten cocktail lounge patrons.

SIGNALING

The CHESAPEAKE & OHIO has placed orders with the Union Switch & Signal Co. for the signaling materials involved in centralized traffic control from Sewell, W. Va., to MacDougal. The control machine located at MacDougal will handle two d-c. code lines, one line for the controlled functions on each of the two single tracks signaled for operation in both directions

News Department continued on next left-hand page

LIMA-BUILT 4-8-4s MEET *today's* DEMANDS



EFFICIENT through freight operation today calls for motive power that can consistently maintain fast schedules with heavy loads, with records of high availability and low maintenance.

Under the stress of wartime traffic, Lima-built 4-8-4 steam locomotives have proved their ability to meet these exacting requirements.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

between Sewell and MacDougal. Each code line will also carry voice communication between the field locations and the machine operator. The major items comprise color-light signals, dual-control M-22A electric switch machines, T-21 switch mechanisms with SL-21 electric locks for hand-thrown switches, coding apparatus, with the necessary line and track relays, rectifiers, transformers and housings. The installation will be handled by the railway company's construction forces.

Financial

BALTIMORE & OHIO.—*Equipment Trust.*—The Baltimore & Ohio has awarded its $3,450,000 of equipment trust certificates, series P, to Salomon Bros. & Hutzler on a bid of 99.28 for a 2 per cent interest rate.

BANGOR & AROOSTOOK. — *Promissory Notes.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue $436,800 of promissory notes in evidence, but not in payment, of the unpaid portion of the purchase price of 100 40-ton box cars, bought from the Magor Car Corporation at $3,556 each, and 50 70-ton hopper cars, bought from the Bethlehem Steel Company at $3,794 each, both under conditional sales agreements. The notes have been sold with a 1.40 per cent interest rate to the National Commercial Bank & Trust Company of Albany, N. Y. The division's report noted that this company, in the years 1941-1944 inclusive, had effected a reduction of $4,830,000 in its outstanding debt, leaving it with $12,981,000 of bonded debt and $870,000 of equipment obligations.

CENTRAL OF NEW JERSEY.—*Reorganization.*—On October 22, the United States district court signed an order giving company until October 13, 1946, to complete its reorganization plan, on the ground that the railroad needed additional time to complete data on how much it owes the State of New Jersey in taxes and how much it will be required to pay.

CHESAPEAKE & OHIO.—*Drops Nickel Plate Merger.*—On October 31 the board of directors of the Chesapeake & Ohio withdrew its offer of August 21 for an exchange of stock with the stockholders of the New York, Chicago & St. Louis and the Wheeling & Lake Erie. The action was taken following the receipt of a letter from John W. Davin, president of the Nickel Plate, advising that a "formidable" group of that road's preferred stockholders had stated its determination to oppose the program at the stockholders meeting, before the Interstate Commerce Commission, and if necessary in the courts. The block of stock represented by the group was able to defeat the plan, even if the vast majority of the remaining stockholders favored it. The Chesapeake & Ohio stated it was not prepared to improve upon the offer made to the Nickel Plate stockholders, believing its initial offer to be "both fair and generous." The board also asserted that on August 20 and 21, when the terms of exchange were fixed, Nickel Plate preferred stock was selling in the market for less than $116 per share. The plan proposed by the C. & O. would have given Nickel Plate preferred stockholders one share of new C. & O. convertible preferred stock and 7/10's of a share of C. & O. common stock. It has been estimated that the convertible preferred stock would have commanded a market price of not less than $100, and at current market prices the 7/10's common share would be worth over $40. Thus a Nickel Plate preferred stockholder would have received the equivalent of approximately $150 in C. & O. preferred and common stocks in exchange for his Nickel Plate preferred and, in addition, through the conversion feature of the preferred stock, would have had a call on the future prosperity of the combined enterprise. The board said it felt that the Nickel Plate preferred stockholders would have chosen to have their claims settled in a tax-free exchange of that character rather than place their reliance upon ultimate liquidation of dividend arrearages in cash—a process which, if accomplished at all, would take many years of Nickel Plate prosperity.

The C. & O. plans to renew its offer to merge or consolidate with the Pere Marquette on the same terms of exchange as those approved by the Pere Marquette board at its meeting on September 18. Elimination of the Nickel Plate from the proposed plan leaves the status of the Wheeling & Lake Erie uncertain because the Nickel Plate, which owns a 33 per cent interest in the Wheeling, has indicated a desire to negotiate for the purchase of the C. & O.'s holdings of Wheeling stock.

CHICAGO, BURLINGTON & QUINCY.—*Awards Bonds.*—The Burlington has awarded $65,000,000 of new first and refunding mortgage bonds, due August 1, 1985, to Morgan, Stanley & Co. and associates on a bid of 100.0399 for a 3⅛ per cent coupon, subject to Interstate Commerce Commission approval. The bonds were reoffered at 100.56. The proceeds, with other funds, will be applied to the retirement of $30,000,000 of 3½ per cent collateral trust bonds due 1965 and $39,493,000 of 3¾ per cent first and refunding mortgage bonds, series of 1974. In its application to the I. C. C. the road asserted the proposed refunding would reduce its outstanding debt by $4,493,000.

CHICAGO, BURLINGTON & QUINCY.—*Promissory Notes.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue $3,883,440 of promissory notes in evidence, but not in payment, of the unpaid portion of the purchase price of 10 4,000-hp. Diesel-electric passenger locomotives to cost $354,600 each and 10 1,350-hp. Diesel-electric freight locomotives to cost $130,830 each, all being obtained under a conditional sale agreement from the Electro-Motive Division of General Motors Corporation. Sale of the notes on a 1.59 per cent annual interest basis to the First National Bank of Chicago has been arranged through competitive bidding. The division's report noted that this company, in the years 1942-1946, will have used in excess of $17,536,115 of cash for the acquisition of new equipment.

ILLINOIS CENTRAL.— *Acquisition.*— This company has applied to the Interstate Commerce Commission for authority to purchase the property of the Mississippi Valley Company, a holding company which it now controls through ownership of all stock, and thereby to acquire direct control through stock ownership of two system lines, the Yazoo & Mississippi Valley and Gulf & Ship Island, the stock of which the Mississippi company holds. This transaction is to be followed by acquisition of the properties of the two operating subsidiaries by the I. C., and by its assumption of leases of the Baton Rouge, Hammond & Eastern; Alabama & Vicksburg; Vicksburg, Shreveport & Pacific; and Louisville, New Orleans & Texas (of Arkansas), now held by the Y. & M. V. The purpose of this intrasystem procedure, it was indicated, is simplification of capital structure in preparation for refinancing indebetedness due to mature in the period 1951-1955, in which connection the issue of an overall refunding mortgage on the amalgamated system properties is contemplated.

MISSOURI-KANSAS-TEXAS. — *Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this company to assume liability for $910,000 of equipment trust certificates in connection with the acquisition of 150 40-ton automobile box cars, fitted with loading devices, at $4,701 each; of 50 50-ton automobile box cars, fitted with loading devices, at $5,133 each, and 50 70-ton covered hopper cars at $4,527 each. The box cars are to be built in the shops of the Missouri-Kansas-Texas of Texas, while the hopper cars are to be built by the American Car & Foundry Company. The certificates have been sold at 99.928, for a 1½ per cent dividend rate, to the Central Hanover Bank & Trust Company. Between December 31, 1941, and July 31, 1945, the division's report noted, this company has effected a reduction in annual fixed charges from $4,335,066 to $2,388,658 by retirement of debt.

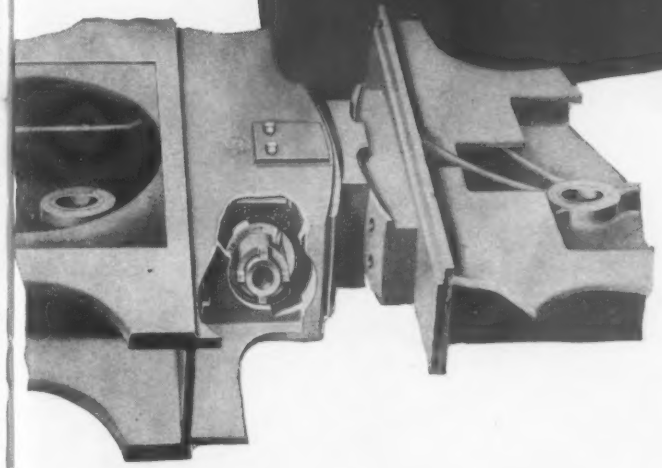
MOORE CENTRAL.—*Acquisition.*—Division 4 of the Interstate Commerce Commission has authorized the Moore Central Railroad, a new company, to acquire the property of the Moore Central Railway, in receivership, for $4,250, and in that connection to issue $4,300 of capital stock.

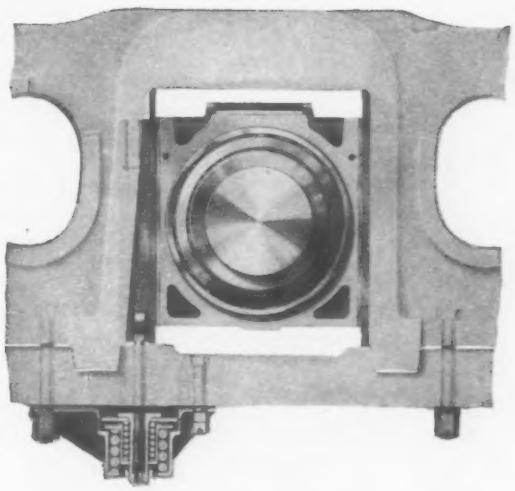
NEW YORK CONNECTING.—*Bonds.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue $25,982,000 of series B 2⅞ per cent first mortgage bonds, due in 1975, which have been sold at 99.2799 to Halsey, Stuart & Company and others, the proceeds of which, with other funds, are to be applied to the redemption of an equal principal amount of series A 3½ per cent first mortgage bonds, due in 1965 and callable at 106. At the same time the Pennsylvania and the New York, New Haven & Hartford, which control this company by ownership of all its stock, have been authorized jointly and severally to guarantee the new issue as to principal and interest. In addition to a federal tax saving expected to exceed $1 million, the company anticipates a net saving in interest charges of about $849,466 from the transaction.

PORT OF PALM BEACH DISTRICT.—*Operation.*—This organization has applied to the

News Department continued on next left-hand page

SMOOTH OPERATION reduces Locomotive Maintenance





On thousands of locomotives the FRANKLIN E-2 RADIAL BUFFER is providing an ideal, non-binding connection between engine and tender.

By means of its spherical and cylindrical faces, the RADIAL BUFFER permits movement in any direction, while maintaining a predetermined frictional resistance to dampen oscillation between engine and tender.

THE FRANKLIN COMPENSATOR AND SNUBBER compensates automatically for expansion and contraction of the driving box, as well as for normal wear. It also dampens the stresses induced by reversal of forces.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

Interstate Commerce Commission for authority to operate 2.15 miles of terminal line already constructed at Palm Beach, Fla.

ST. LOUIS-SAN FRANCISCO.—*Hearing to Confirm Revamping Plan.*—November 14 has been set as the date upon which United States District Judge George H. Moore at St. Louis, Mo., has ordered a hearing to be held on confirmation of the proposed reorganization plan of the Frisco. The proposed revamping plan has already been approved by two-thirds of the allowed claimants of all classes.

TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS.—*Refunding.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue $40,312,000 of series D refunding and improvement mortgage 2⅞ per cent bonds, due in 1985, which have been sold at 101.829 to the First Boston Corporation and others. The proceeds and other funds are to be employed to refund or redeem $34,000,000 of 4 per cent general mortgage refunding sinking fund gold bonds, due in 1953 and callable at 110, and $6,375,000 of series B 3⅜ per cent refunding and improvement mortgage bonds, due in 1974 and callable at 107. In addition, $11,983,000 of the general mortgage 4's which have been pledged under the refunding and improvement mortgage will be canceled. While the net saving from the refunding operation is estimated as $135,622, it will effect a reduction in the company's funded debt, by 1985, of about $15,575,000, the division's report pointed out. Authority also was given the 15 proprietary companies which control the terminal severally to guarantee the new issue, the share of each being one-sixteenth except that the Missouri Pacific's proportion is two-sixteenths.

WESTERN MARYLAND.—*Refunding.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue $9,500,000 of collateral trust bonds to mature at the rate of $500,000 annually from 1947 to 1959, inclusive, with the remaining $3,000,000 maturing in 1960. The interest rate is to vary with maturity dates from 1¼ per cent to 3¼ per cent annually. These bonds have been sold at par to the New York Trust Company and others, making the average annual interest cost to the company 2.92 per cent. The proceeds, with other funds, are to be applied to the redemption at 105 of $11,614,000 of series A 5½ per cent first and refunding mortgage gold bonds due in 1977. As collateral security for the new issue the company will pledge $14,250,000 of first and refunding mortgage bonds, including $3,341,000 of series AA 5½'s held in the treasury and $10,909,000 of series B 5½'s, a new issue replacing $5,910,141 of series A 5's due in 1967 and $6,384,000 of series A 5½'s, due in 1977, which are to be cancelled. A net reduction of $6,033,070 in interest charges to maturity is an anticipated result of the refunding, in addition to tax savings, while a reduction of $2,114,000 in outstanding funded debt also will be accomplished.

Average Prices Stocks and Bonds

	Oct. 30	Last week	Last year
Average price of 20 representative railway stocks	61.68	59.06	42.07
Average price of 20 representative railway bonds	99.13	98.78	90.41

Dividends Declared

Bangor & Aroostook.—Preferred (clears arrears on the issue) accumulation, $1.25, payable January 1 to holders of record December 6, also preferred, quarterly, $1.25, payable January to holders of December 6.

Chicago South Shore & South Bend.—Quarterly, 30¢, payable December 15 to holders of record December 1.

Erie.—Common, 50¢, payable December 15 to holders of record November 30; certificates of beneficial interest, 50¢, payable December 15 to holders of record November 30.

Great Northern.—Preferred, $1.50, payable December 10 to holders of record November 9.

Gulf Mobile & Ohio.—$5 preferred, $2.50, payable January 2 to holders of record December 12.

International Railways of Central America.—5% preferred (accum.), $1.25, payable November 15 to holders of record November 5.

Nashville Chattanooga & St. Louis.—$1.00, payable December 1 to holders of record November 7.

Norfolk & Western.—$2.50, payable December 10 to holders of record November 14.

Ontario & Quebec.—Semi-annually, $3.00, payable December 1 to holders of record November 1.

Passaic & Delaware Extension.—Semi-annually, $2.00, payable November 1 to holders of record October 26.

Reading.—$2.00 preferred A, quarterly, 50¢, payable December 13 to holders of record November 21.

Southern.—Common, quarterly, 75¢; 5% noncumulative, preferred, quarterly, $1.25, both payable December 15 to holders of record November 15.

Railway Officers

EXECUTIVE

W. A. Bender, assistant to the general manager of the Alton at Chicago, has been appointed assistant to the chief executive officer, with the same headquarters.

J. F. Hennessey, Jr., whose election tion as vice-president, traffic, of the Missouri-Kansas-Texas was reported in the *Railway Age* of October 27, was born at St. Louis, Mo., on April 11, 1893, and entered railway service with the M-K-T at Dallas, Tex., in June, 1910, subsequently holding various clerical positions until June, 1913, when he was advanced to chief clerk to the assistant general freight agent at Houston, Tex. One year later he was promoted to soliciting freight agent, with the

J. F. Hennessey, Jr.

same headquarters, and in 1917 he was granted leave of absence to serve in the armed forces during World War I. Mr. Hennessey returned to the M-K-T in 1919 as division freight agent at Austin, Tex., and in 1926 he was promoted to assistant general freight agent, with headquarters at Houston. A short time later he was advanced to general freight agent at St. Louis, and in May, 1929, he was further promoted to executive general agent, with headquarters at Houston. Two years later Mr. Hennessey became passenger traffic manager, and in July, 1933, he was advanced to assistant to the president. In 1934 he was promoted to traffic manager, solicitation, and in June of this year he became assistant vice-president, traffic, the position he held at the time of his new appointment.

FINANCIAL, LEGAL AND ACCOUNTING

John G. Livengood, whose retirement as comptroller of the Missouri-Kansas-Texas, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of October 27, was born at Rockville, Ind., on October 28, 1873. He began his railroad career with the Chicago, Milwaukee, St. Paul & Pacific in 1890 in yard service, subsequently working in various capacities for the Minneapolis, St. Paul & Sault Ste. Marie in train service until 1893, and for the Great Northern in station service from

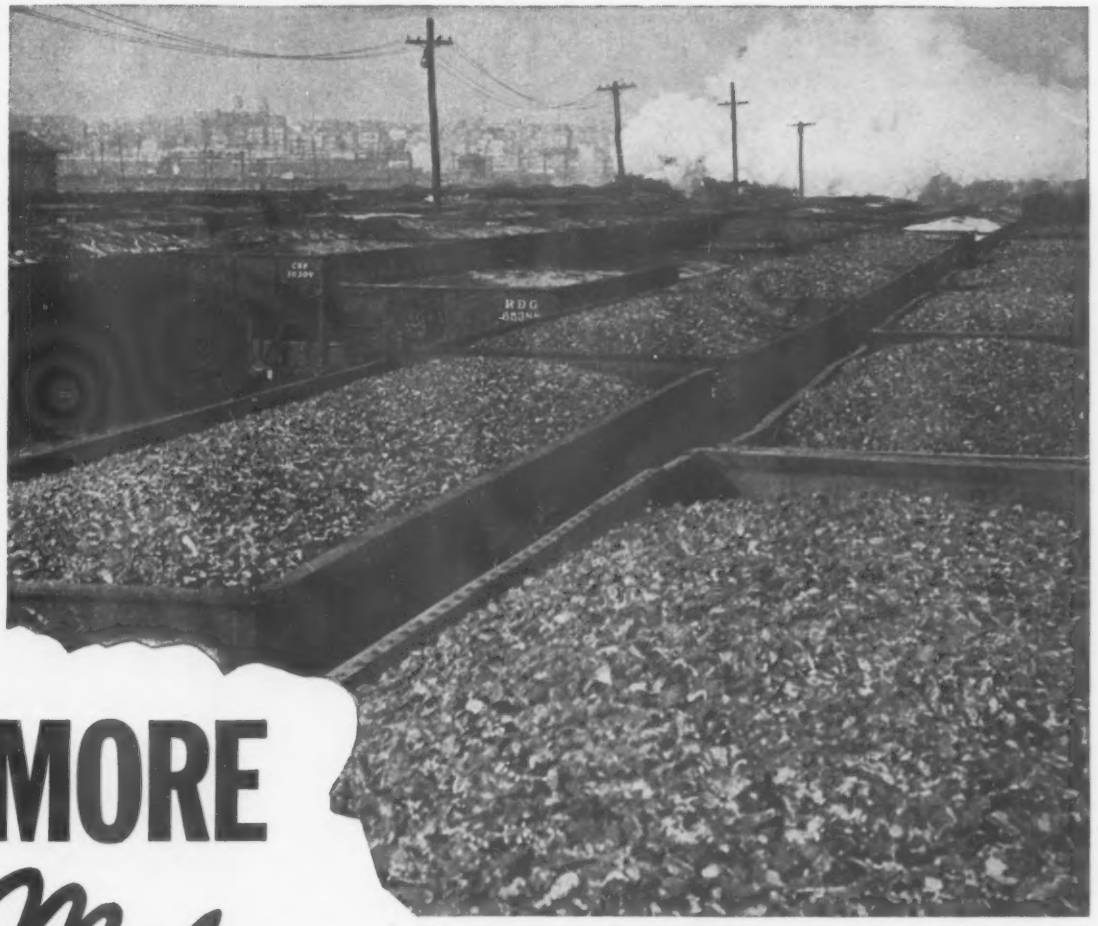
John G. Livengood

1893 to 1900. In the latter year he was appointed auditor of disbursements of the Erie, and in 1911 he became auditor of disbursements, and, subsequently, general auditor of the Missouri Pacific. He served in that capacity until 1918, when he became federal auditor of the Katy and the St. Louis-San Francisco. With the return of the railroads to private ownership, Mr. Livengood was appointed comptroller of the Katy, the position he held at the time of his retirement. In 1934 Mr. Livengood served as president of the Railway Accounting Officers Association.

James J. McLaughlin, general sollicitor of the Clinchfield with headquarters at Erwin, Tenn., has been promoted to general counsel, a change of title.

Jay V. Hare, whose retirement as secretary and treasurer of the Reading was announced in the October 27 issue of *Railway Age*, was born in Castleton, N. Y., on May 24, 1878, and attended Temple College Law School in Philadelphia, Pa. He entered railroad service in 1897 as a junior clerk for the Reading, serving successively as clerk and chief clerk in the secretary's

News Department continued on next left-hand page



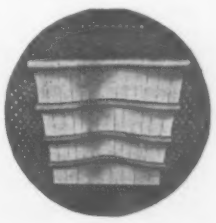
MORE *Mileage* FROM EVERY TON of COAL

● Because the railroads have first to haul every ton of coal their locomotives burn, it is doubly important these days that coal be utilized most efficiently and economically.

Experience has proved that maximum production of steam from a ton of coal is secured only when the locomotive firebox is equipped with a complete brick arch.

Consequently from the standpoint of fuel cost alone, it is unprofitable to operate any locomotive without a complete arch.

HARBISON-WALKER REFRACTORIES CO.
Refractories Specialists



AMERICAN ARCH CO. INC.
60 East 42nd Street, New York 17, N. Y.
Locomotive Combustion Specialists

department. In 1912, he was appointed secretary of the company, and in 1938, secretary and treasurer. His retirement became effective on October 31, 1945. Mr. Hare is succeeded by **W. W. Rhoads.** A photograph of Mr. Rhoads and an account of his railroad career appeared in the September 1 issue of *Railway Age,* at the time of his appointment to the position of assistant secretary and assistant treasurer.

Joseph T. Mahaney, whose promotion to comptroller of the Missouri-Kansas-Texas, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of October 27, was born on July 4, 1892, at Windsor, Mo., and began his railroad career in May, 1910, as an office boy and clerk of the Midland Valley at Muskogee, Okla. In February, 1913, he entered the service of the Katy at St. Louis as a clerk in the accounting department, being promoted to special accountant in January, 1916. Mr. Mahaney was appointed auditor of the Wichita Falls & Northwestern, a Katy subsidiary, in March, 1918, and in August, 1918, was appointed auditor for the receiver, handling corporate accounts for the Katy at St. Louis. In March, 1919, he was appointed auditor of federal accounts, which position he occupied during the period of federal control of the railroads. In March, 1920, Mr. Mahaney was appointed auditor for the receiver of the Katy at St. Louis, and was promoted to assistant comptroller on November 1, 1925. On May 1, 1945, he was advanced to general auditor, the position he held at the time of his new appointment.

Joseph T. Mahaney

Capt. George W. Robinette, of the Canadian Royal Artillery, has been appointed solicitor for the Canadian National at Toronto, Ont., succeeding L. Z. McPherson, who has resigned to enter general practice.

OPERATING

C. C. Fertig has been appointed chief operating officer of the Missouri & Arkansas, with headquarters at Harrison, Ark.

W. F. Kirk, who has been on leave of absence from the Missouri Pacific to serve with the Office of Defense Transportation, has returned to his position of assistant general manager, with headquarters in St. Louis, Mo. **F. L. Yeater,** who has also been serving with O. D. T., has returned to his former position of assistant to the general superintendent of transportation, with headquarters in St. Louis, Mo.

Eric L. Dunbar, whose promotion to superintendent of the New Orleans Terminal Co. (part of the Southern), with headquarters at New Orleans, La., was announced in the *Railway Age* of October 6, was born at Bryan, Ala., on January 21, 1896. He entered railroad service on April 19, 1911, as a telegrapher of the Southern at Littleton, Ala., subsequently holding various minor positions until April 1, 1930, when he was advanced to trainmaster at Macon, Ga. Later he served in a similar capacity at Louisville, Ky., Huntingburg, Ind., and Hattiesburg, Miss. On August 10, 1944, Mr. Dunbar was promoted to superintendent of terminals with headquarters at Meridian, Miss., the position he held at the time of his new appointment.

James Ray Carr, whose promotion to superintendent of terminals of the Canadian National at Black Rock, N. Y., was announced in the October 20 issue of *Railway Age,* was born in Belleville, Ont., where he entered railway service as a brakeman for the Canadian National in 1910. In 1915, he enlisted for overseas military service, returning to his former position upon demobilization in 1918. In that year he became conductor, later transferring to Hamilton, Ont., and London, Ont. He subsequently served in various capacities at Brantford, Ont., Gravenhurst, and Allandale, where, in 1943, he was appointed assistant superintendent. His recent advancement occurred on October 1.

James Ray Carr

Charles D. Moss, general superintendent of the Clinchfield at Erwin, Tenn., has been promoted to general manager with the same headquarters, succeeding **Louis H. Phetteplace,** who has retired after 57 years of service.

J. M. Budd has been appointed assistant general manager, lines East of Williston, N. D., of the Great Northern, with headquarters at St. Paul, Minn.

A. S. Pitzer, chief dispatcher of the Illinois Central at Paducah, Ky., has been promoted to trainmaster of the Fulton and Hickman districts, with headquarters at Fulton, Ky., succeeding **S. C. Jones,** who has been transferred to the Cairo district, with headquarters as before at Fulton. Mr. Jones replaces **J. M. O'Connor,** who in turn has been transferred to the Freeport and Madison districts, with headquarters at Freeport, Ill., replacing **H. E. Greer,** assigned to other duties at his own request.

Thomas E. Boyle, whose promotion to superintendent of the Indianapolis division of the Pennsylvania, with headquarters at Indianapolis, Ind., was reported in the *Railway Age* of October 6, was born at Crawfordsville, Ind., on June 5, 1907, and received his higher education at Notre Dame. He entered railway service in July, 1928, as an assistant on the engineering corps of the Pennsylvania at Toledo, Ohio, serving in various other capacities at different points of the road until 1936, when he was promoted to supervisor of track on the Pennsylvania-Reading Seashore Lines. Two years later Mr. Boyle was transferred to the Philadelphia Terminal division, with headquarters at Philadelphia, Pa., and in 1940 he was advanced to assistant division engineer of the Ft. Wayne division. In 1941 he was promoted to division engineer of the Conemaugh division, and in 1943 he was transferred to the Philadelphia Terminal division, remaining in that location until his new appointment.

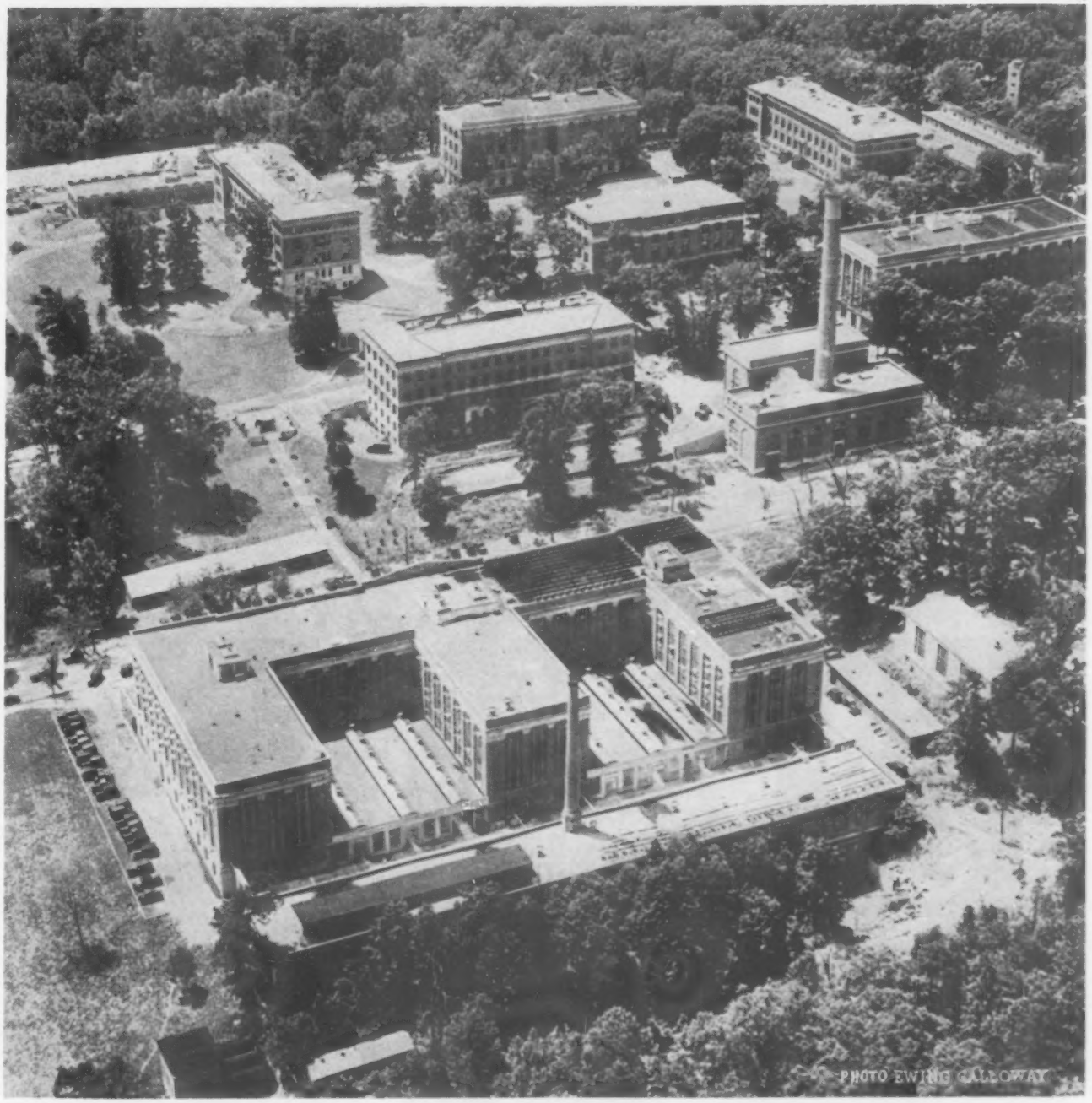
Thomas E. Boyle

Frank Lockwood, assistant superintendent of station service and freight claim prevention of the Chicago, Rock Island & Pacific at Chicago has been promoted to superintendent of station service and freight claim prevention with the same headquarters, succeeding **Oliver Maxey,** whose death occurred on October 16.

C. I. Warren, yardmaster for the Canadian National at Midland, Ont., has been named trainmaster at Brantford, Ont., succeeding **R. B. Hardy,** whose promotion was announced in the October 20 issue of *Railway Age.*

Lt. Col. Ernest E. Foulks, formerly superintendent of the Albuquerque division of the Atchison, Topeka & Santa Fe, who since 1942 has been serving with the 713th Railway Operating Battalion, has returned to the Santa Fe as superintendent of trans-

News Department continued on next left-hand page



Buildings of BUREAU OF STANDARDS, Washington, D.C.

STANDARDS?

for Superheaters

it is ELESCO

THE
SUPERHEATER
COMPANY

Representative of AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Ave., CHICAGO
ELESCO
Montreal, Canada, THE SUPERHEATER COMPANY, LTD.

Superheaters · Superheater Pyrometers · Exhaust Steam Injectors · Steam Dryers · Feedwater Heaters · American Throttles

portation, with headquarters at Chicago, a newly-created position.

TRAFFIC

H. T. Rickerson has been appointed general coal freight agent of the New York Central, with headquarters at Cleveand, O.

Vernon T. Ross, commercial agent of the Southern at Macon, Ga., has been promoted to the newly-created position of district freight agent at Brunswick, Ga.

Elbert L. Whitney, assistant freight traffic manager of the New York Central, with headquarters at Chicago, has retired after 60 years of service.

Robert D. Darden, general agent in the freight department of the Southern at Philadelphia, Pa., has been appointed assistant general freight agent, in charge of the newly-established office in Asheville, N. C.

Edward J. Cottom, whose promotion to general freight agent of the Louisville & Nashville, with headquarters at Louisville, Ky., was reported in the *Railway Age* of October 20, was born at Louisville and in September, 1906, he entered railway service as a claim investigator of the L. & N.,

Edward J. Cottom

with headquarters in that city. In 1910 he was assigned to the general freight office where he held various positions until March 1, 1928, when he was promoted to chief clerk. On January 1, 1935, Mr. Cottom was advanced to assistant general freight agent at Louisville, the position he held at the time of his new appointment.

F. W. Rosser, formerly general manager of the Erie, has retired from active duty and the position of general agent of the Erie at Cleveland, O., after fifty-six years in railroading.

B. P. Williams has been appointed general agent of the Missouri Pacific at San Antonio, Tex., succeeding **A. J. Batliner,** whose promotion to assistant general freight agent, with headquarters at Lake Charles, La., was reported in the *Railway Age* of September 22.

Arthur C. Diven, district freight agent of the Southern at Cleveland, Ohio, has been promoted to district freight and passenger agent, with headquarters at Peoria, Ill., succeeding **Herbert S. Knapp,** whose death on September 30 is reported elsewhere in these columns.

James K. Williams, whose promotion to freight traffic manager, sales and service, of the Louisville & Nashville, with headquarters at Louisville, Ky., was reported in the *Railway Age* of October 20,

James K. Williams

was born at Clarksville, Tenn., and entered railway service as a check clerk of the L. & N. at Clarksville on November 1, 1915. He subsequently held a number of minor positions at Memphis, Tenn., Louisville, Detroit, Mich., and New York until February 1, 1923, when he was promoted to city freight agent at Louisville. In 1929 Mr. Williams was advanced to export and import agent at New York, and on January 1, 1935, he became general agent, with headquarters at Louisville. In the same year he was transferred to Detroit, and in 1937 he was advanced to foreign freight agent at Louisville. Mr. Williams was promoted to general freight agent, with the same headquarters, the position he held at the time of his new appointment.

Ferdinand G. Lantz, whose retirement as freight traffic manager of the Erie, with headquarters at Chicago, was reported in the *Railway Age* of October 6, was born

Ferdinand G. Lantz

at Orange, N. J., on January 4, 1869. He entered railway service on July 15, 1887, as a checker in the claim department of the Erie at New York and in 1897 he became chief clerk in the general office at Cleveland, Ohio. On September 1, 1908, he was promoted to division freight agent, with headquarters at Chicago, the point which was to be his headquarters for the balance of his career. In May, 1912, Mr. Lantz was advanced to assistant general freight agent, and six years later he was further advanced to general agent. On July 1, 1918, he was appointed assistant general freight agent, and on March 1, 1920, he was promoted to general freight agent. On December 1, 1928, Mr. Lantz was advanced to assistant freight traffic manager, and on April 1, 1931, he was promoted to the position he held at the time of his retirement.

L. W. Sargent, commercial agent of the Missouri Pacific at Detroit, Mich., has been advanced to general agent, with headquarters at Indianapolis, Ind., succeeding **J. J. Mulholland,** whose promotion to executive general agent at Harlingen, Tex., was reported in the *Railway Age* of August 25.

Patrick H. McWhorter, division freight agent of the Southern at Knoxville, Tenn., has been promoted to assistant general western freight agent, with headquarters at Chicago, a newly-created position. **William W. Haverly,** commercial agent at Chicago, has been advanced to district freight agent, with the same headquarters.

J. R. O'Malia, coal traffic manager of the New York Central, has been appointed general coal traffic manager, with headquarters as before at New York. **R. K. Horton,** coal freight agent at the same office, has been named general coal freight agent there. **M. J. Murphy** succeeds Mr. Horton. **P. P. Belitz,** assistant coal traffic manager at Chicago, has been elevated to coal traffic manager at Cleveland, O.

ENGINEERING & SIGNALING

John McMullen, consulting engineer of the Erie at Cleveland, O., has retired after 57 years' service.

W. Waters, roadmaster of the Canadian National at Regina, Sask., has been promoted to division engineer, with headquarters at Prince Albert, Sask., succeeding **H. R. Wilkinson,** whose transfer to Victoria, B. C., was reported in the *Railway Age* of September 8.

K. J. Wagoner, regional engineer of the Baltimore & Ohio, has been promoted to chief engineer of the Lakefront Dock & Railroad Terminal at Toledo, Ohio. This company is subsidiary of the Baltimore & Ohio and the New York Central and will construct new coal docks at Toledo for the use of these roads.

MECHANICAL

W. P. Sullivan has been appointed acting supervisor of Diesel equipment of the Missouri Pacific, with headquarters at St. Louis, Mo., succeeding **J. E. Kilker,** deceased.

R. H. Romann has been appointed acting superintendent of motive power and equipment of the Peoria & Pekin Union,

with headquarters at Peoria, Ill., succeeding **E. A. Park,** who has been granted a leave of absence.

PURCHASES AND STORES

Joseph W. Rodgers, whose appointment as purchasing agent of the Bessemer & Lake Erie and the Union was announced

Joseph W. Rodgers

in the October 27 issue of *Railway Age,* was born on May 25, 1894, in Pittsburgh, Pa., and entered railroad service in September, 1913, as a stenographer in the freight traffic department of the Bessemer & Lake Erie. In 1914, he transferred to the purchasing department of the Bessemer & Lake Erie and the Union. He was appointed clerk in that department in 1917. His advancement to purchasing agent became effective October 1, with headquarters at Pittsburgh, Pa.

Leslie K. Gress, whose appointment as assistant purchasing agent of the Bessemer & Lake Erie and the Union was announced in the October 27 issue of *Railway Age,* was born in Wilmerding, Pa., on June

Leslie K. Gress

20, 1902, and entered railroading in November, 1918, as a messenger in the freight traffic department of the Bessemer & Lake Erie. He was shortly transferred from the freight department to the passenger department as mail boy, then in 1920 to the purchasing department as messenger. He became a clerk in the purchasing department in June, 1920. His appointment as assistant purchasing agent, with headquarters at Pittsburgh, Pa., became effective on October 1.

Herbert G. Bartels, assistant purchasing agent of the St. Louis Southwestern at St. Louis, Mo., has been appointed acting purchasing agent, with the same headquarters, succeeding to the duties of **Harry G. Devine,** whose death on October 18 was reported in the *Railway Age* of October 27.

Joseph E. Marceau, whose appointment as purchasing agent of the Rutland was announced in the October 6 issue of *Railway Age,* was born at Rutland, Vt. He entered the service of the Rutland in 1907 as an office boy for the general passenger agent. In 1908 he became a laborer with the stores department, subsequently being appointed stationery stock clerk and later assistant storekeeper. He became general storekeeper in 1919 and held this position until his recent appointment as purchasing agent. His headquarters remain as before at Rutland.

SPECIAL

Philip V. D. Lockwood, assistant to the vice-president, traffic, in charge of advertising, of the New York Central, has retired, though he will remain until January

Kalden Kazenjian

Philip V. D. Lockwood

1, 1946, to advise his successor, **Mac G. Collins,** formerly account executive with the advertising firm of Foote, Cone, & Belding in New York. Mr. Lockwood was born in New York on January 19, 1871, and entered the service of the New York Central in 1888, serving for 20 years in various positions in the passenger traffic and advertising departments. In 1908, he was appointed advertising manager. He resigned from his position with the New York Central in 1920 to become vice-president of the Lesan Advertising Agency, New York. In 1929, he returned as advertising manager for the New York Central. Mr. Lockwood retired from active duty in January, 1941, but returned a year later for the duration of the war emergency as assistant to vice-president, traffic, in charge of advertising.

Mr. Collins was born in Worthington, Ohio. He has a broad background of advertising and transportation experience. The direction of advertising and sales promotion activities over the entire system, as well as broadening merchandising services and

Mac G. Collins

public survey facilities, will be among the responsibilities of the advertising department.

Harry W. Frier, manager of public relations of the Chicago & North Western, with headquarters at Chicago, has resigned to accept a position with the advertising firm of Foote, Cone & Belding, New York.

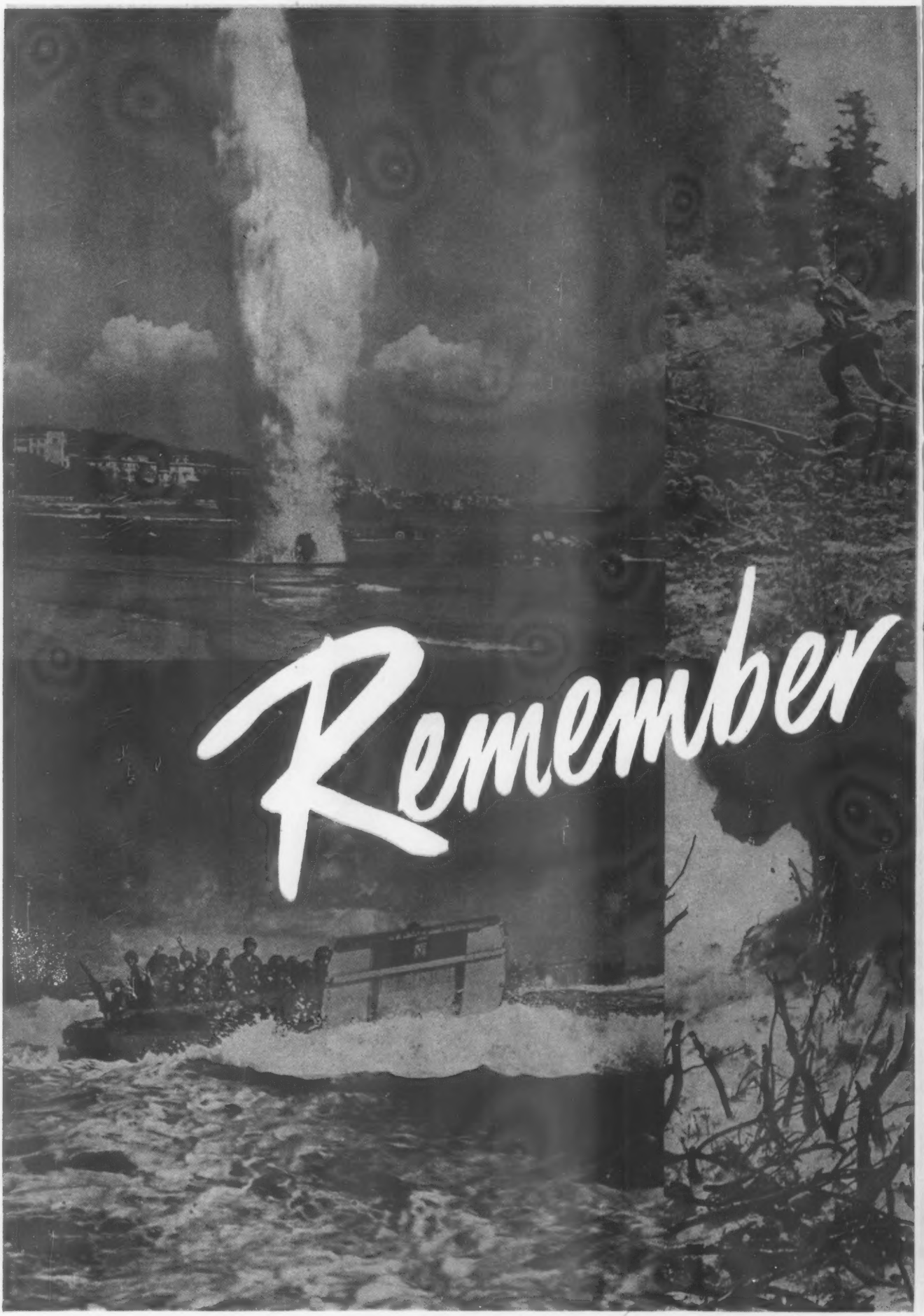
OBITUARY

Herbert S. Knapp, district freight and passenger agent of the Southern, with headquarters at Peoria, Ill., died at his home in that city on September 30.

William J. Bedford, Jr., assistant general passenger agent of the Chicago & Eastern Illinois, with headquarters at St. Louis, Mo., died in a hospital in that city on October 23.

Alva B. Parsons, whose retirement as superintendent of transportation of the Chicago, South Shore & South Bend was reported in the *Railway Age* of October 20, died on October 28 in a hospital in Michigan City, Ind.

Charles O. McHugh, superintendent of transportation for Eastern lines of the Canadian Pacific at Toronto, Ont., died there on October 13. Mr. McHugh was born in May, 1882, and entered railroading in 1901 as an assistant agent for the Canadian Pacific at Elora, Ont. From 1902 to 1922 he served as operator, relieving agent and chief dispatcher at Pearl Mount, Ont., Forest, Peterborough, Galt, London, Smith's Falls, and Farnham, Que., and Brownsville, Me. He then became transportation assistant at Montreal, Que., and, in 1928, was appointed assistant superintendent at Smith's Falls. He was advanced to superintendent at Farnham in 1933. In January, 1936, he became superintendent of transportation for the Eastern lines at Montreal, and was transferred to Toronto in 1937 when headquarters for that office were changed.


Remember

Kasserine Pass, Anzio, Saint-Lô, the Remagen Bridge...

Guadalcanal, Attu, Bougainville, Tarawa, Iwo, Okinawa...

Remember?

Already, the names grow a little hazy to some of us. But men died there, and more were hurt, and some managed to come through.

They had a tough job to do...and they did it. *You* remember.

There's something called a debt we owe... to several million men who finished the biggest job this country ever tackled...

A debt to men who fought and were wounded—and still need the best medical attention in the world. To men who are scattered all over the globe—and still need return-trip tickets. To men who are coming out of uniform —and need a hand to get started again.

You can help pay our debt to these men—by buying Victory Bonds. Bonds—not to give them weapons this time, but to give them back their world. That's the job *you're* asked to finish—by buying extra bonds for the last time.

Kasserine Pass... Anzio... Okinawa...

How good is your memory?

Victory Loan

They Finished Their Job
Let's Finish Ours!

CONTRIBUTED BY
AMERICAN LOCOMOTIVE COMPANY

Operating Revenues and Operating Expenses of Class I Steam Railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF AUGUST, 1945 AND 1944

Item	United States		Eastern District		Southern District		Western District	
	1945	1944	1945	1944	1945	1944	1945	1944
Miles of road operated at close of month	228,507	228,615	56,004	56,064	43,333	43,353	129,170	129,198
Revenues:								
Freight	$547,628,845	$617,347,606	$192,782,599	$229,419,880	$95,000,881	$114,140,493	$259,845,365	$273,787,233
Passenger	153,254,169	162,069,944	62,852,088	69,292,291	27,917,686	30,613,694	62,484,395	62,163,959
Mail	10,330,447	9,970,169	3,637,286	3,452,660	1,732,531	1,757,911	4,960,630	4,759,598
Express	10,946,824	12,465,460	2,891,581	3,925,666	1,296,551	1,621,214	6,758,692	6,918,580
All other operating revenues	33,057,901	34,330,234	13,953,222	15,008,378	4,450,901	4,438,418	14,653,778	14,883,438
Railway operating revenues	755,218,186	836,183,413	276,116,776	321,098,875	130,398,550	152,571,730	348,702,860	362,512,808
Expenses:								
Maintenance of way and structures	117,101,463	114,445,585	41,549,387	43,777,151	20,649,969	19,331,386	54,902,107	51,337,048
Depreciation	9,899,812	8,891,165	4,328,036	3,831,452	1,581,023	1,480,764	3,990,753	3,578,949
Retirements	1,357,387	1,503,495	213,755	411,665	178,372	232,491	965,260	859,339
Deferred maintenance	34,305	*244,557	38,425	*35,613	.....	.....	*4,120	*208,944
Amortization of defense projects	1,959,926	1,680,849	665,495	519,136	394,492	318,161	899,939	843,552
Equalization	*1,782,266	*2,848,962	*1,589,606	*2,147,093	*41,348	*55,858	*151,312	*646,011
All other	105,632,299	105,463,595	37,893,282	41,197,604	18,537,430	17,355,828	49,201,587	46,910,163
Maintenance of equipment	139,713,452	135,848,100	56,162,640	56,718,397	26,684,037	25,534,474	56,866,775	53,595,229
Depreciation	18,137,209	17,982,868	7,657,247	7,590,587	3,600,620	3,603,146	6,879,342	6,789,135
Retirements	*5,313	*6,736	*5,966	.....	*1,991	*6,736	2,644	.....
Deferred maintenance and major repairs	*118,293	*201,848	*16,450	3,438	.....	.....	*101,843	*205,286
Amortization of defense projects	18,106,014	14,496,335	6,149,269	4,763,714	4,326,619	3,643,016	7,630,126	6,089,605
Equalization	*161,401	*81,988	*13,579	*51,043	*147,696	2,498	*126	*33,443
All other	103,755,236	103,659,469	42,392,119	44,411,701	18,906,485	18,292,550	42,456,632	40,955,218
Traffic	11,889,414	11,478,712	4,254,245	4,124,443	2,285,350	2,122,473	5,349,819	5,231,796
Transportation—Rail line	250,506,668	249,757,353	105,779,126	109,153,183	41,518,158	42,081,123	103,209,384	98,523,047
Transportation—Water line	.....	80	.....	.....	.....	.....	.....	80
Miscellaneous operations	10,635,335	10,057,077	3,811,660	3,610,935	1,591,479	1,555,651	5,232,196	4,890,491
General	17,417,031	16,901,954	7,069,833	6,885,755	3,448,401	3,285,918	6,898,797	6,730,281
Railway operating expenses	547,263,363	538,488,861	218,626,891	224,269,864	96,177,394	93,911,025	232,459,078	220,307,972
Net revenue from railway operations	207,954,823	297,694,552	57,489,885	96,829,011	34,221,156	58,660,705	116,243,782	142,204,836
Railway tax accruals	106,717,679	177,959,259	24,592,536	52,747,460	19,102,610	38,683,131	63,022,533	86,528,668
Pay-roll taxes	20,062,466	19,826,982	8,135,496	8,359,309	3,440,833	3,413,744	8,486,137	8,053,929
Federal income taxes†	60,699,709	132,016,885	5,263,963	32,379,910	10,808,342	30,382,881	44,627,404	69,254,094
All other taxes	25,955,504	26,115,392	11,193,077	12,008,241	4,853,435	4,886,506	9,908,992	9,220,645
Railway operating income	101,237,144	119,735,293	32,897,349	44,081,551	15,118,546	19,977,574	53,221,249	55,676,168
Equipment rents—Dr. balance	10,847,504	13,561,765	3,025,868	5,099,974	*1,126,976	*14,581	8,948,612	8,476,372
Joint facility rent—Dr. balance	3,706,445	4,687,905	1,841,411	2,278,611	433,732	667,029	1,431,302	1,742,265
Net railway operating income	86,683,195	101,485,623	28,030,070	36,702,966	15,811,790	19,325,126	42,841,335	45,457,531
Ratio of expenses to revenues (per cent)	72.5	64.4	79.2	69.8	73.8	61.6	66.7	60.8

FOR EIGHT MONTHS ENDED WITH AUGUST, 1945 AND 1944

Item								
Miles of road operated at close of month	228,527	228,737	56,007	56,097	43,333	43,379	129,187	129,261
Revenues:								
Freight	$4,687,940,636	$4,654,249,934	$1,721,170,846	$1,801,824,113	$880,628,171	$982,097,517	$2,086,141,619	$1,960,328,304
Passenger	1,123,040,356	1,204,265,302	462,567,139	486,066,745	214,352,626	238,403,072	446,120,591	479,795,485
Mail	83,818,305	81,307,100	28,441,266	27,304,634	14,661,685	15,178,110	40,715,354	38,824,356
Express	105,316,603	95,390,906	30,588,525	31,490,139	14,954,378	14,460,658	59,773,700	49,440,109
All other operating revenues	251,101,414	246,079,950	109,729,318	106,018,612	34,650,762	33,852,414	106,721,334	106,208,924
Railway operating revenues‡	6,251,217,314	6,281,293,192	2,352,497,094	2,452,704,243	1,159,247,622	1,193,991,771	2,739,472,598	2,634,597,178
Expenses:								
Maintenance of way and structures	860,319,877	828,916,209	310,125,982	313,459,561	153,396,566	142,738,679	396,797,329	372,717,969
Depreciation	78,098,247	70,595,099	34,177,611	30,500,308	12,491,872	11,625,072	31,428,764	28,469,719
Retirements	7,151,012	9,986,330	1,289,608	3,340,462	1,026,848	1,127,148	4,834,556	5,518,720
Deferred maintenance	*2,468,455	*3,924,769	*698,746	*644,080	.....	.....	*1,769,709	*3,280,689
Amortization of defense projects	17,194,368	12,213,437	5,223,952	3,936,412	3,006,792	2,195,726	8,963,624	6,081,299
Equalization	13,561,720	7,885,007	4,842,628	1,908,937	5,521,244	2,907,241	3,197,848	3,068,829
All other	746,782,985	732,161,105	265,290,929	274,417,522	131,349,810	124,883,492	350,142,246	332,860,091
Maintenance of equipment	1,101,955,123	1,053,239,285	447,255,701	442,477,146	210,461,200	197,204,300	444,238,222	413,557,839
Depreciation	143,561,122	142,412,140	60,570,066	60,071,368	28,707,367	28,564,206	54,283,689	53,776,566
Retirements	*61,345	*9,329	*70,848	593	*57,079	*8,405	66,582	*1,517
Deferred maintenance and major repairs	*1,071,032	*1,075,528	*34,280	13,472	.....	.....	*1,036,752	*1,089,000
Amortization of defense projects	140,895,871	108,756,360	47,268,796	35,967,546	34,063,528	28,088,587	59,563,547	44,700,227
Equalization	128,979	75,138	*17,368	57,927	*6,694	*3,948	153,041	21,159
All other	818,501,528	803,080,504	339,539,335	346,366,240	147,754,078	140,563,860	331,208,115	316,150,404
Traffic	94,656,467	89,737,772	33,883,858	32,196,735	17,803,422	16,077,826	42,969,187	41,463,211
Transportation—Rail line	2,018,356,783	1,957,273,434	889,289,011	872,697,021	340,238,581	331,485,408	788,829,191	753,091,005
Transportation—Water line	1,219	4,905	.....	.....	.....	.....	1,219	4,905
Miscellaneous operations	78,960,651	79,110,234	28,831,770	28,089,339	12,285,961	12,955,006	37,842,920	38,065,889
General	137,776,205	133,041,617	55,701,086	53,560,476	26,656,801	25,590,799	55,418,318	53,890,342
Railway operating expenses	4,292,026,325	4,141,323,456	1,765,087,408	1,742,480,278	760,842,531	726,052,018	1,766,096,386	1,672,791,160
Net revenue from railway operations	1,959,190,989	2,139,969,736	587,409,686	710,223,965	398,405,091	467,939,753	973,376,212	061,806,018
Railway tax accruals	1,112,648,033	1,254,694,612	278,494,736	371,968,985	248,413,411	297,904,814	585,739,886	584,820,813
Pay-roll taxes	155,951,436	154,191,909	64,765,425	65,008,537	26,954,375	26,860,412	64,231,636	62,322,960
Federal income taxes†	746,458,989	898,119,658	120,130,495	220,758,621	181,459,513	230,206,070	444,868,981	447,154,967
All other taxes	210,237,608	202,383,045	93,598,816	86,201,827	39,999,523	40,838,332	76,639,269	75,342,886
Railway operating income	846,542,956	885,275,124	308,914,950	338,254,980	149,991,680	170,034,939	387,636,326	376,985,205
Equipment rents—Dr. balance	95,759,582	102,789,177	43,196,725	46,004,241	*575,499	5,010,743	53,138,356	51,774,193
Joint facility rent—Dr. balance	28,105,220	28,829,538	14,041,073	13,876,154	3,166,277	3,410,228	10,897,870	11,543,156
Net railway operating income	722,678,154	753,656,409	251,677,152	278,374,585	147,400,902	161,613,968	323,600,100	313,667,856
Ratio of expenses to revenues (per cent)	68.7	65.9	75.0	71.0	65.6	60.8	64.5	63.5

* Decrease, deficit, or other reverse items.

† Includes income tax, surtax, and excess-profits tax.

‡ Railway operating revenues are after deduction of $31,701,194 for the eight months ended with August 1945 and $31,059,808 for the eight months ended with August 1944 to create a reserve for land grant deductions in dispute.

Compiled by the Bureau of Railway Economics and Statistics, Interstate Commerce Commission. Subject to revision.

Contrasts in M.K.T. motive power are illustrated by these pictures of a locomotive of a generation ago and one of today.

HSGI Shares in "Katy" History Too

MID-WAY in its history—around 1910—the M.K.T. adopted HUNT-SPILLER GUN IRON as a standard material for valve and cylinder bushings and other vital parts of its locomotives. During the subsequent development and growth of that important pioneer road, HSGI parts have continued to keep down maintenance costs and increase availability of M.K.T. motive power. Such sustained loyalty is not unique, for the M.K.T. is but one of the 76 Class I railroads which for 35 years or longer have depended upon the greater wearability of HSGI parts to increase economy and service in locomotive operation.

HUNT SPILLER GUN IRON
HSGI
AIR FURNACE PROCESS

HUNT-SPILLER MFG. CORPORATION

N. C. RAYMOND, *President* — E. J. FULLER, *Vice-Pres. & Gen. Mgr.*

383 Dorchester Ave. ★ South Boston 27, Mass.

Canadian Representative: Joseph Robb & Co., Ltd., 5575 Cote St. Paul Rd., Montreal, P. Q.
Export Agents:
International Rwy. Supply Co., 30 Church Street, New York 7, N. Y.

- Cylinder Bushings
- Cylinder Packing Rings
- Pistons or Piston Bull Rings
- Valve Bushings
- Valve Packing Rings
- Valve Bull Rings
- Crosshead Shoes
- Hub Liners
- Shoes and Wedges
- Floating Rod Bushings
- Light Weight Valves
- Cylinder Liners and Pistons for Diesel Service
- Dunbar Sectional Type Packing
- Duplex Sectional Type Packing for Cylinders and Valves (Duplex Springs for Above Sectional Packing)
- Cylinder Snap Rings
- Valve Rings, All Shapes

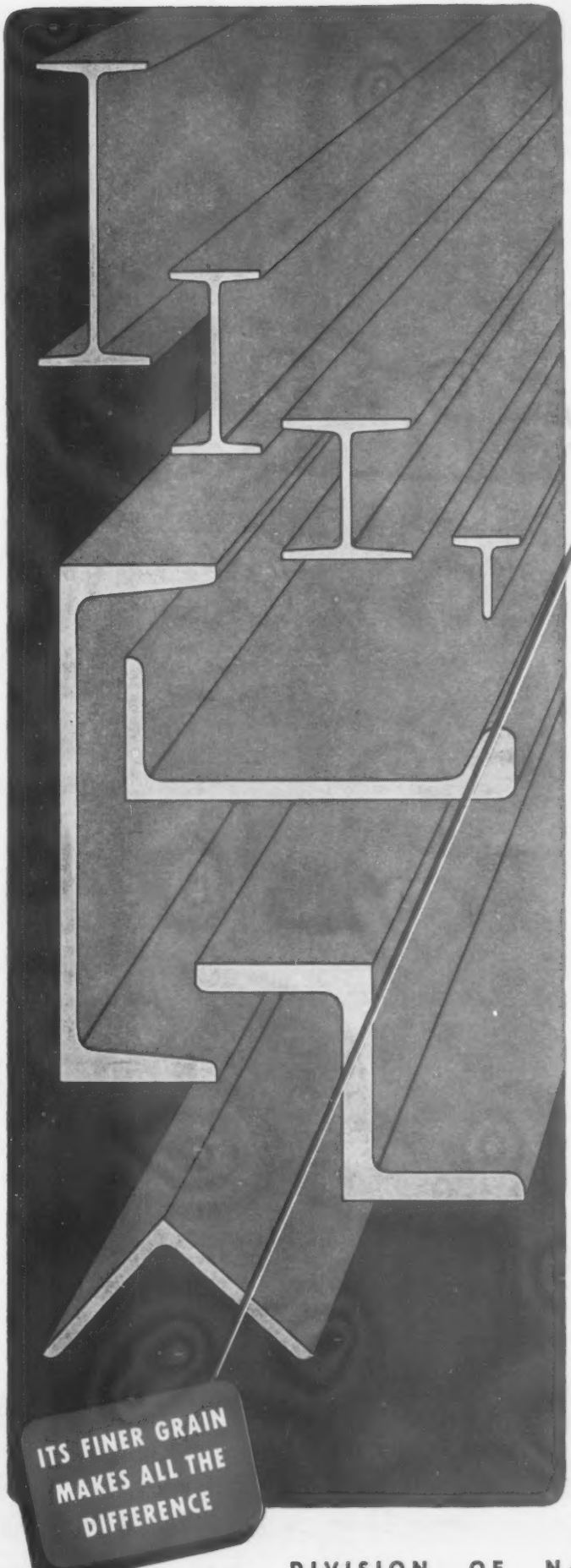
POWER *Unlimited!*
24 HOURS OF EVERY DAY

Specify Ready-Power Gas-Electric Units for New Trucks or to Repower Present Trucks

Industrial trucks equipped with gas-electric Ready-Power Units are ready to go when you want them. There is no delay for battery installation . . . the power is generated right on the truck chassis, thus permitting top speed, round-the-clock operation. Many owners say they get 25% to 50% more tonnage at lower net cost through the use of Ready-Power Units. Convert now to Ready-Power and get the full advantage of continuous power . . . 24 hours of every day.

THE READY-POWER CO.
DETROIT, MICHIGAN, U. S. A.

DISTRICT OFFICES: BIRMINGHAM, ALA. • BOSTON, MASS. • CHICAGO, ILL. • NEW YORK, N. Y. • PITTSBURGH, PA. PHILADELPHIA, PA. • SEATTLE, WASH. • WASHINGTON, D. C. • TORONTO, CANADA



N-A-X
HIGH-TENSILE STEEL

NOW . . .
STANDARD STRUCTURALS AND SPECIAL SECTIONS
FROM WEIRTON IN N-A-X HIGH-TENSILE STEEL

Great strength combined with excellent weldability; high resistance to impact, fatigue and corrosion; freedom from air hardening and copper precipitation — these proven characteristics of N-A-X High-Tensile Steel are now available in structural shapes from Weirton.

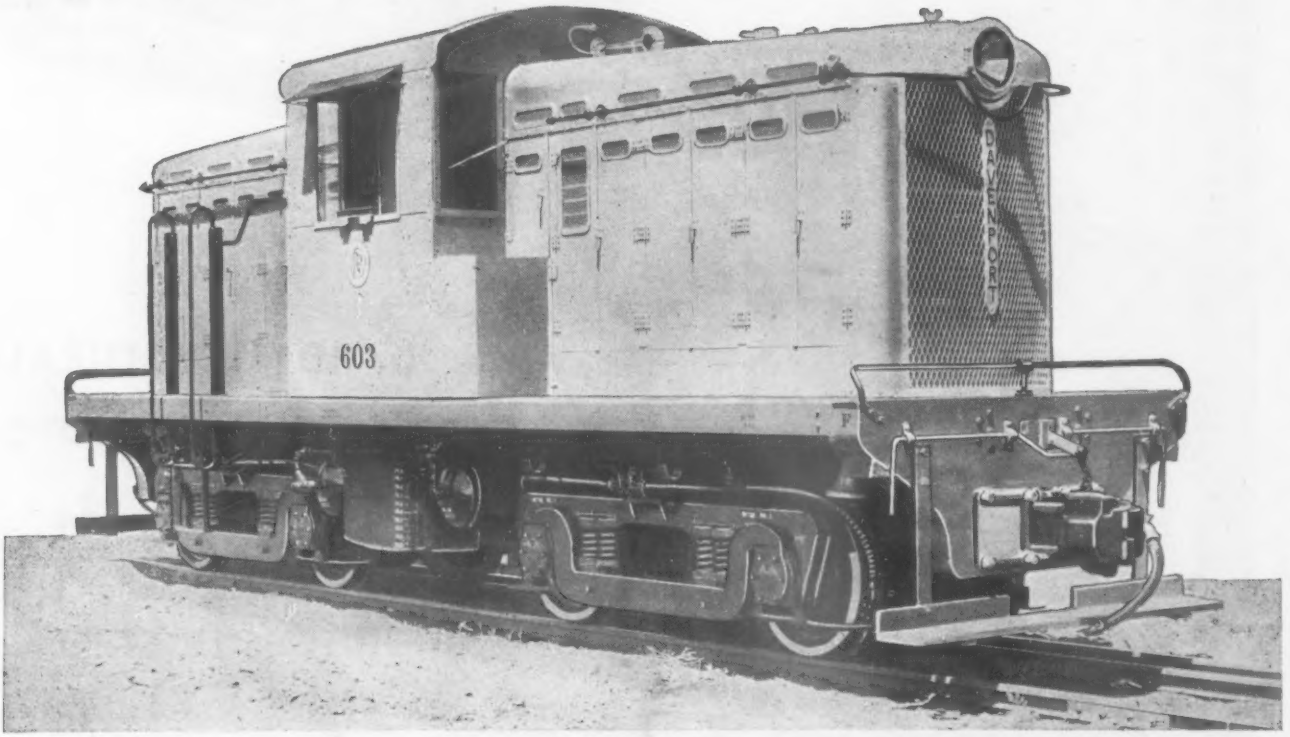
N-A-X High-Tensile Steel is particularly advantageous where applications involve stress, strain and payloads. Our metallurgists will be glad to work with you in applying the advantages of this great steel.

WEIRTON STEEL CO.

WEIRTON, WEST VIRGINIA
SALES OFFICES IN PRINCIPAL CITIES

DIVISION OF NATIONAL STEEL CORPORATION

DAVENPORT
LIGHTER DIESEL
SWITCHERS



Pay for Themselves Quickly through DIRECT SAVINGS

DAVENPORT LOCOMOTIVES — Speed all over the World

DON'T WASTE OVER-POWER

Whenever rail locations are served by larger-than-required steam or Diesel switchers, that's WASTE THROUGH OVER-POWER. The many Davenport 44-Ton Diesel-Electric and 30-Ton Diesel-Mechanical locomotives now on switching and branch line service have amply proven their ability to improve service and drastically reduce operating costs. This fact should command sober consideration as the railroads meet the new problems of the future. We can now accept orders for these major money savers.

Hundreds of Locations NEED these Advantages:

100% availability for one, two or three eight-hour shifts as desired • Higher power ratio at slow speeds • Quick acceleration and smoother, more sensitive response to controls • Exceptional visibility for safety and efficiency • Smoke-free, quiet operation • Independence from engine houses, coal docks, ash pits and water facilities • Quick return on investment through direct savings.

ARMY ★★ NAVY

Complete Information on Request

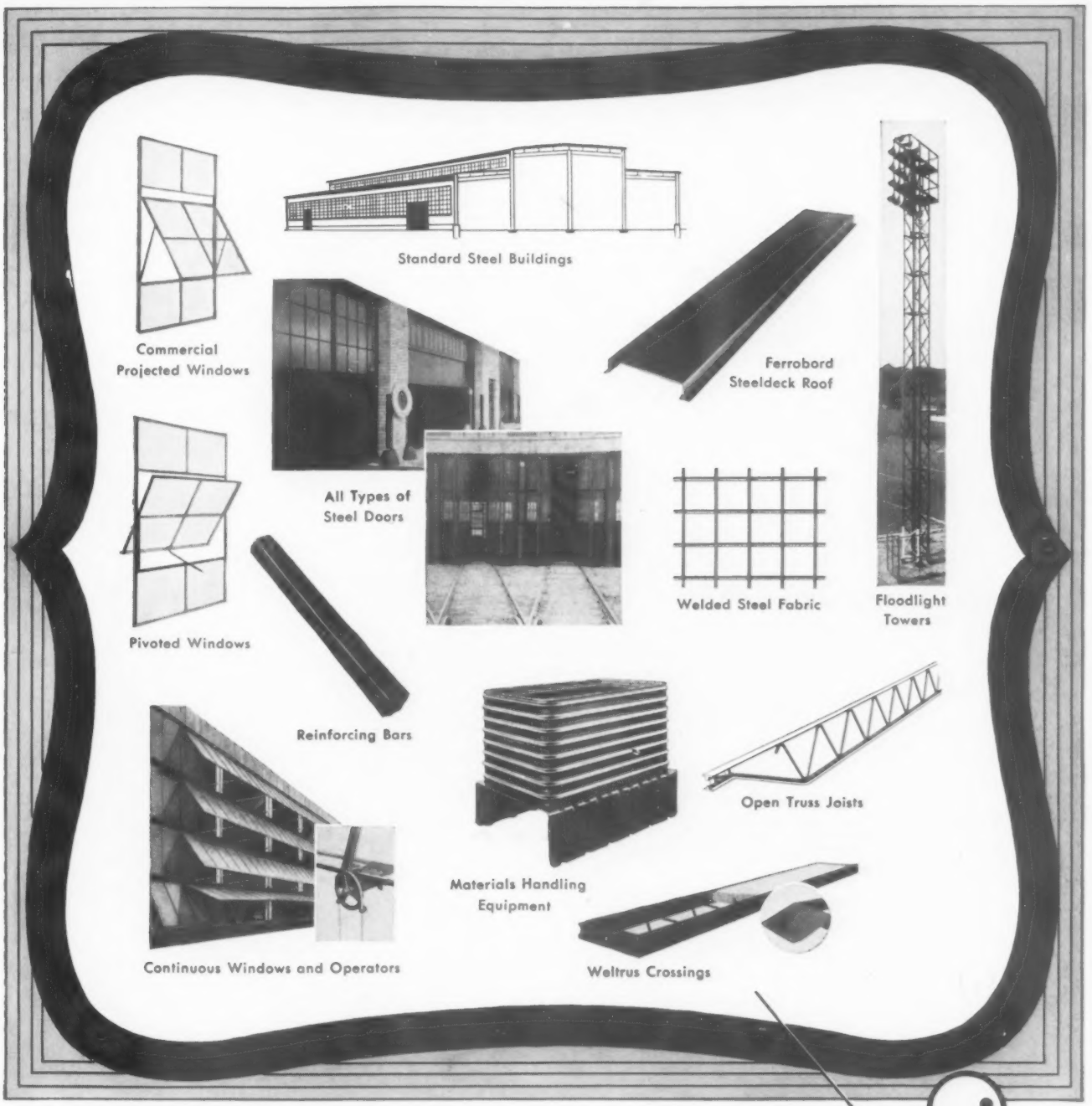
DAVENPORT LOCOMOTIVE WORKS

A DIVISION OF DAVENPORT BESLER CORPORATION

DAVENPORT, IOWA, U. S. A.

Pioneers of the Lighter Diesel Switcher

EXPORT OFFICE • BROWN & SITES CO., INC. • 50 CHURCH STREET, NEW YORK • CABLE ADDRESS "BROSITES"



ALL THESE TRUSCON PRODUCTS

available now!

We can again serve the railways of America with the Truscon steel construction and maintenance products so well-known throughout the railroad industry.

Get your new building and rehabilitation plans under way right now . . . get in touch with your Truscon representative and have him help solve your needs . . . or write direct for details.

TRUSCON *Steel Company*

YOUNGSTOWN 1, OHIO

Subsidiary of Republic Steel Corporation

DIESELS

One of the new 2000-hp. diesel-electric road locomotives now in passenger service on the lines of the National Railways of Mexico.

Christening one of the new diesels "JUAREZ VICTORY SPECIAL".

—south of the Rio Grande

Two Baldwin-Westinghouse 2000-hp. diesel-electric locomotives were delivered to the National Railways of Mexico, by way of the El Paso Gateway, on August 6, 1945. Pausing only long enough for a brief christening ceremony, the new locomotives were placed in regular passenger service on the 521-mile run between Ciudad Juarez and Torreon.

The diesels immediately improved the on-time performance of trains and have more than met all expectations as regards efficiency and economy. The two new diesels replaced seven steam locomotives formerly used in this service and it is estimated that the resultant savings will pay for the new locomotives within a few months.

BALDWIN PRODUCTS FOR THE RAILROADS—Steam, diesel-electric and electric locomotives, Diesel engines, Hydraulic presses, Special railroad shop equipment, Testing machines and instruments, Steel tires and rolled steel wheels, Crane wheels, Connecting rods and other steel forgings, Steel castings, Springs, Metal plate fabrication, Boilers, Non-ferrous castings, Bending rolls, Plate planers, Dynamometer cars.

BALDWIN

LOCOMOTIVES

BLW THE BALDWIN GROUP

The Baldwin Locomotive Works, Philadelphia 42, Pa., U. S. A.
Offices: Philadelphia, New York, Boston, Washington, Chicago, Detroit, St. Louis, San Francisco, Cleveland, Houston, Pittsburgh.

OFFICIAL U. S. NAVY PHOTOGRAPHS

Safe Pathway to Inferno

MEARLFOAM 5

TIME AND TIME AGAIN, fliers (see circle) have been lifted from their hot seats and carried to safety on carpets of voluminous, fire-resistant foam composed of myriad tiny bubbles *filled with air*.

Note how this war-born, blended multi-protein foam of high fluidity spreads rapidly over the fire forming a welded mat or airtight blanket. These official U. S. Navy photographs clearly illustrate how it beats back fire and holds it back.

MEARLFOAM-5 strangles the hottest gasoline or oil fire and remains a live, efficient foam blanket long after the fire itself is dead. It puts fire out and keeps it out. It quickly builds up a six- or eight-inch welded air-foam mat which seals out the oxygen on which fire feeds. It adheres to solid surfaces and will pile up an inch or two of fire-smothering dense foam on even perpendicular surfaces. Any break or rupture in the foam blanket heals automatically. Fire-resistance is maintained during aging.

The many unique and dependable properties of MEARLFOAM-5 are the sole reasons the U.S. Navy uses it extensively for preparedness . . . and for the quick extinguishment of raging gasoline and oil fires on shipboard and at shore bases. MEARLFOAM-5 is the veteran of many successful engagements, and now is ready to demonstrate to all—the super effectiveness of mechanical (air) foam as the most successful, modern method for combatting gasoline and oil fires.

MEARLFOAM-5, after putting fire out —*keeps it out* . . . totally eliminating the flashback hazard which in the past has taken such a terrible toll.

MEARLFOAM-5 is a good-mixer—with any type of water. It works at maximum efficiency in any climate or atmospheric condition. Always dependable.

When split-seconds count—you can rely on MEARLFOAM-5 to put fire out fast—to keep fire out *permanently!*

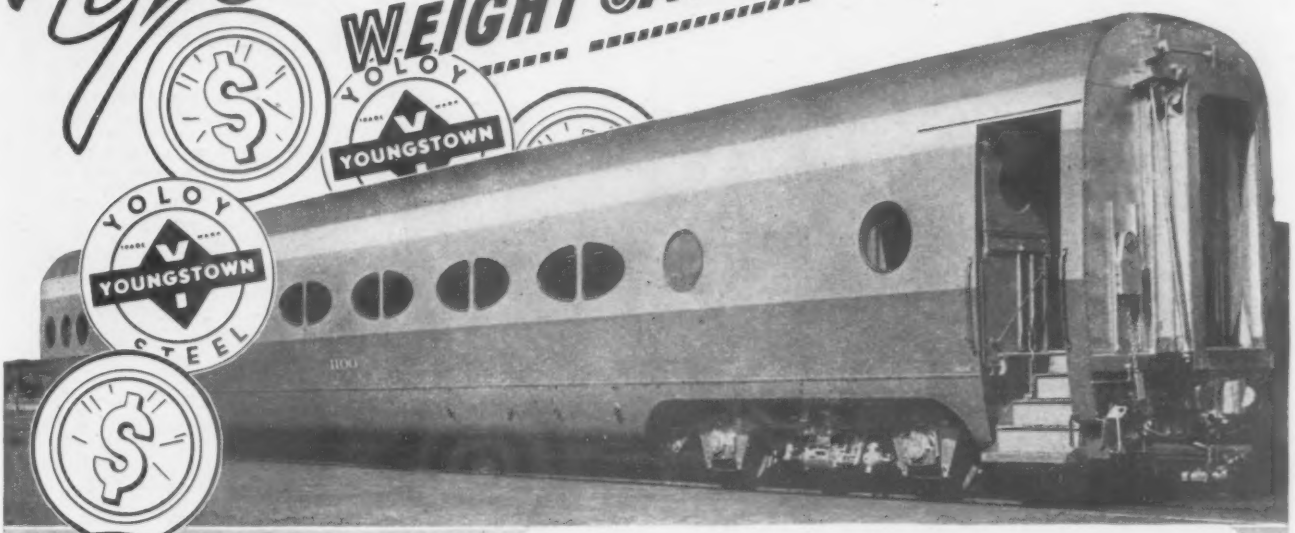
A one-page condensed data sheet detailing the unique properties of this war-born fire-fighting foam is now available on request.

Completely safe and non-corrosive—may be used with standard Mechanical Foam-Forming Equipment

FOAM ON FIRE OUT... Stays OUT!

THE MEARL CORPORATION
153 Waverly Place, New York 14, N.Y.

Yoloy's WEIGHT SAVING SAVES MONEY



Built for western roads just before the war, this luxurious coach sets a new style for increased passenger comfort and operating economy.

Dead Weight Reduction Cuts Operating Costs

To the public, streamlined passenger trains mean faster schedules. To railroad management, streamlining means economy, too, through reduced operating costs.

Take this streamlined coach, for example. Fabricated from Yoloy steel, it is lighter than the conventional type car. During the life of the car this weight-saving will result in thousands of dollars less hauling cost. At the same time, the lighter Yoloy-built car is stronger, more durable, less costly to maintain, and gives passengers a better, more comfortable and safer ride.

Yoloy is Youngstown's high-strength nickel-copper alloy. Its use in railroad cars of various types has demonstrated an average weight saving of from 20% to 25% or more. If you are not familiar with all the desirable qualities of this high-tensile, low-alloy steel, let us acquaint you with the experience of the roads using it. Your inquiry will receive prompt attention. Write, phone or wire us.

YOUNGSTOWN

THE YOUNGSTOWN SHEET AND TUBE COMPANY

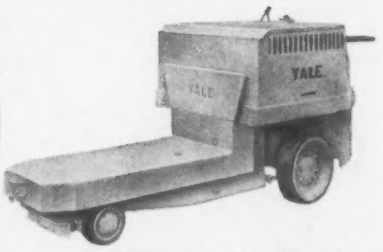
YOUNGSTOWN 1, OHIO

Manufacturers of

CARBON - ALLOY AND YOLOY STEELS

Pipe and Tubular Products - Sheets - Plates - Conduit - Bars - Electrolytic Tin Plate - Coke Tin Plate - Rods - Wire - Nails - Tie Plates and Spikes

Right into freight cars goes this Yale Electric High-Lift Fork Truck—often carrying as much as five tons. Precise spotting in cars makes the best use of floor area, permits loading to capacity.



Yale Electric Industrial Trucks save time and effort—are power-packed to speed the movement of tremendous tonnage per day—travel fast and maneuver easily in congested areas. High lift models save storage space.

Yale Hand Lift Trucks are ruggedly built for long life—provide easy lift, easy roll, easy steer—take the shorter hauls at a fast clip. Wide range of models and capacities for efficient handling of skids, skid bins, and paliets.

How to trim L. C. L. handling costs

Moving 5½ million carloads of L.C.L. freight a year has become routine for American railroads! Contributing to this tremendous accomplishment are methods of freight handling which not only increase efficiency but reduce costs.

For instance, speedy, efficient, big-capacity, "safety first" Yale Electric and Hand Lift Trucks, working in freight houses, on loading platforms, and right *in* freight cars, move great tonnage economically at a fast pace. Thus they eliminate the *hidden costs* that go with unnecessary rehandling—save time and effort, conserve worker energy.

Let Yale help you step up efficiency and wipe out *hidden costs* through the planned application of highly mobile hand lift and electric trucks and accurate scales. Phone our nearest representative for complete details about Yale Materials Handling Machinery, or write to The Yale & Towne Manufacturing Co., 4530 Tacony Street, Philadelphia 24, Pa.

Kron Springless Dial Scales, made by Yale, eliminate excessive time- and money-wasting handling operations, provide accurate, efficient, low-cost weighing and counting of all kinds of materials. Available in all types from bench to crane scales.

RAILWAY REPRESENTATIVES:

NEW YORK 17, N. Y.
Eastern Railway Supplies, Inc.
110 East 42nd Street

CHICAGO 1, ILL.
The Earl E. Thulin Co.
Suite 339, Hotel Sherman

WASHINGTON 5, D. C.
Ralph W. Payne, Metropolitan Bank Bldg.

CLEVELAND 15, OHIO
C. E. Murphy, 923 Midland Bldg.

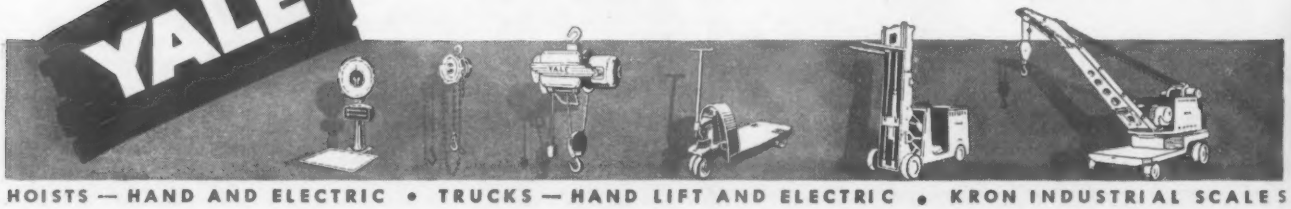
ST. PAUL 1, MINN.
Robert J. Wylie, 612 Pioneer Bldg.

ST. LOUIS 3, MO.
Clarence Gush, 2232 Olive Street

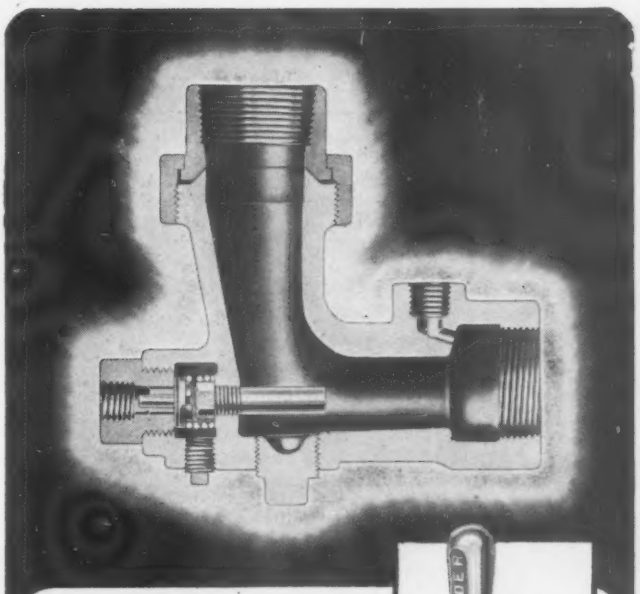
MATERIALS HANDLING MACHINERY

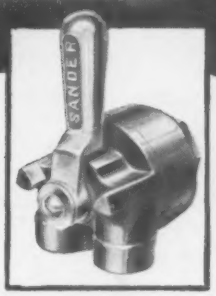
CUTS PRODUCTION COSTS... SAVES TIME... SAVES EFFORT... PROMOTES SAFETY

YALE



HOISTS — HAND AND ELECTRIC • TRUCKS — HAND LIFT AND ELECTRIC • KRON INDUSTRIAL SCALES





Viloco SANDERS

For Diesel and Electric Locomotives

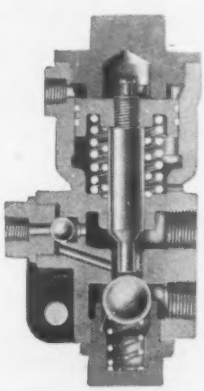
The Viloco Sander equipment for Diesel and Electric Locomotives is especially designed for this type of service. It is economical in the use of sand and air; reliable and efficient under all weather conditions.

Viloco Sander Trap Type GB-342

The Type GB-342 is made with a horizontal discharge as illustrated above, and is provided with a clean-out nozzle. The sander nozzle which controls delivery of sand is fixed and cannot be altered promiscuously. Any alteration in delivery requirements is simplified by applying a longer or shorter nozzle. A check valve with composition gasket prevents back pressure from blowing sand into the air line. If the installation requires angle discharge the Type GA-343 trap should be specified.

Viloco Sander Valve No. 350

The Operating Valve is compact and simple in construction. Its small size permits location within easy reach of the engine men. This valve is connected to operating cylinder of Relay Valves.



Viloco Relay Valve No. 341

The Viloco No. 341 Relay Valve is constructed to provide a clean-out blast, of a predetermined interval, before and after each sanding operation. A more efficient clean-out is obtained through the use of a ball check arrangement. This new feature prevents delivery of sand while clean-out air is flowing, thus overcoming excessive cutting of traps and piping, and at the same time conserving the sand supply.

VILOCO RAILWAY EQUIPMENT CO.

332 SOUTH MICHIGAN AVENUE · CHICAGO

The CLARK FLEET

. . . is revolutionizing material handling!

There's a machine for every need—Clark team of Fork Trucks and Industrial Tractors. Each is a fast, maneuverable, hard worker designed specifically to meet the practical working needs of a particular Material Handling job.

For sound expert counsel on your Material Handling needs, talk to a Clark Field Engineer—NOW.

CLARK TRUCTRACTOR, BATTLE CREEK, MICHIGAN

Products of CLARK • TRANSMISSIONS • ELECTRIC STEEL CASTINGS AXLES FOR TRUCKS AND BUSES • AXLE HOUSINGS • BLIND RIVETS INDUSTRIAL TRUCKS AND TRACTORS • HIGH-SPEED DRILLS AND REAMERS METAL SPOKE WHEELS • GEARS AND FORGINGS • RAILWAY TRUCKS

THE RAILROADS *and* PUBLIC WELFARE

Their Problems and Policies

By EMORY R. JOHNSON, M.L., Ph. D., Sc. D.

Professor Emeritus of Transportation and Commerce, Wharton School of Finance and Commerce, University of Pennsylvania

The post-war problem of the railroads in their relations with other forms of transportation will soon again be before Congress. Here is a preview of their problem from the standpoint of the public welfare by the dean of professors of transportation. One chapter reviews their splendid record of war service. The last chapter is addressed to members of Congress, government regulatory bodies and to serious students of transportation.

Contents

The Problem Stated—The Background of Present Conditions—The Pre-War Status of the Railroads—The Place of the Railroads in the Transportation System—Operating Efficiency and Economy: Railroad Management and Administration—Railroad Labor: Service, Rights and Obligations—Some Problems of Railroad Financing—Government Regulation: Its Relation to Railroad Problems—Railroad Freight Classification and Government Regulation—Railroad Rate Making, Revenues, and Government Regulation—Railroad Cooperation and Coordination Versus Consolidation—Government Aid to Railroads—Government Aid to Waterway Transportation—Government Aid to Highway Transportation—American Railroads in the World War Period—Private Versus Government Ownership and Operation of the Railroads—Summary, Conclusions, Recommendations.

338 pages, 6 x 9 inches, cloth, $3.00

Ten Days' Free Examination Coupon

Simmons-Boardman Publishing Corp.
30 Church St., New York 7, N. Y.

Please send me on 10 Days' Free Examination a copy of THE RAILROADS AND PUBLIC WELFARE by Emory R. Johnson. If satisfactory I will remit the list price of $3.00. Otherwise I will mail back the book.

Name .....

Address .....

City ..... State .....

Company ..... Position .....

R. A. 11-3-45

HYMAN-MICHAELS COMPANY
Relaying Rails ★★★ Dismantling
Used railroad equipment—cars—locomotives
Freight Car Replacement Parts
Complete stocks of guaranteed used freight car parts carried on hand by us at all times. Located conveniently for shipment to any part of country. Write — Phone — Wire — when interested in used Rails, Equipment, Cars, Car or Track Dismantling, or Car Parts.

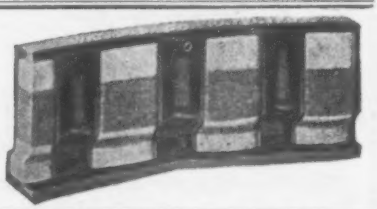
Main Office
122 SOUTH MICHIGAN AVENUE
CHICAGO, ILLINOIS

Branches

New York	San Francisco	Houston
St. Louis	Los Angeles	Havana, Cuba
SERVICE	QUALITY	RELIABILITY

"GUNITE" CONCRETE
(CALLED "SHOTCRETE" BY RAILROADS)
DETAIL INFORMATION—SPECIFICATIONS ON REQUEST
GUNITE CONCRETE & CONSTRUCTION CO.
ENGINEERS CEMENT GUN SPECIALISTS CONTRACTORS
1301 Woodswether Road, Kansas City 6, Missouri

Our truing shoes do the work while engines and cars are in service. This cut shows style for grooved tires and also shows the depth of grinding material.



WHEEL TRUING
BRAKE SHOE COMPANY
DETROIT, MICHIGAN

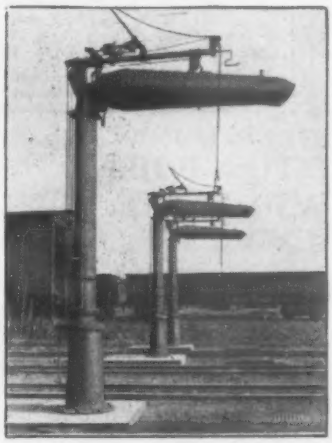
BUY
VICTORY
BONDS
TO FINISH
THE JOB

Nothing takes the place of Leather!

Until you see for yourself, you never know what the rich luxuriousness of pliant, soft, genuine leather can do for the new postwar lounge and club cars you're designing. There is no substitute for it. Why not write us today for complete information? A postcard will do.

Blanchard Bro. AND Lane

408 Frelinghuysen Ave., Newark 5, N. J.



... WATER TANKS

CONSTRUCTED OF QUALITY MATERIAL BY SKILLED HANDS...

for railroad service

Specify U. S. WATER TANKS on your next order along with water columns, semaphores, switch stands or valves.

Years of experience plus quality materials and skilled hands makes possible the production of high grade and efficient equipment, important in the successful operation of the nation's railroads with minimum maintenance expenditures.

U. S.-CHALLENGE COMPANY

BATAVIA - ILLINOIS

GET TOGETHER DEPARTMENT

RAILROAD EDUCATIONAL SERVICE

For 45 years the Railroad Department — International Correspondence Schools — has been training ambitious railroad men the technique of their work. Nearly 300 railroads have agreements with the International Correspondence Schools to instruct their employees who are interested in technical training at reduced rates.

Courses In:
Railroad Apprentice Training
Air Brakes
Locomotive Firemen
Locomotive Engineers
Car and Locomotive Shop Work
Traffic Management
Accounting—Rate Clerk
Maintenance of Way
Transportation Salesmanship
Signal Work
Telephony and Telegraphy

We Specialize in Railroad Apprentice Technical Training Courses Covering the Work Done by Each Craft.

Free Booklet on Request

INTERNATIONAL CORRESPONDENCE SCHOOLS
Railroad Department
Box 8816 SCRANTON, PA.

POSITION OPEN

Wanted: man experienced in short line railroad general office accounting, especially familiar with general books and I.C.C. classifications. Salary open subject to agreement. Write airmail giving full details, experience, age, etc., salary expected, or wire Auditor, Tonopah & Goldfield RR, Tonopah, Nevada.

SALES ENGINEER WANTED

Sales engineer preferably a graduate mechanical engineer with good connections among key men in the Railroad Industry wanted by well established, highly regarded company manufacturing an exclusive, high leaded bearing bronze. Thorough knowledge of bronze requirements for locomotives, etc. essential. Excellent opportunity in large territory. Commission basis. Write your qualifications to Saginaw Bearing Company, 821 So. Water Street, Saginaw, Michigan, Attention Karl Agricola.

Take Advantage of Space in this Section

LOCOMOTIVES

1—Westinghouse, 2-Unit, 87-Ton 600 H.P. Diesel Electric. Built 1928. Tractive effort 52,200 lbs.

2—44-Ton Westinghouse, Electric 600 V. D.C. Excellent Condition. Just Overhauled.

Other Diesel & Steam Locomotives too!

Send us your Inquiry

IRON & STEEL PRODUCTS, Inc.
40 years' experience
13486 S. Brainard Ave.
Chicago 33, Ill.
"ANYTHING containing IRON or STEEL"

Educational Services for RAILROAD MEN

Our New Service on Diesel Locomotive Operation is highly recommended for Engineers and Firemen

The Railway Educational Bureau
Omaha 2, Nebraska

SAVE *on* Railway Equipment

—New Spikes and Bolts— Relaying Rails and Angle Bars

Good used tie plates, anti rail creepers and other railway supplies and equipment.

SONKEN-GALAMBA Corporation
KANSAS CITY 18, KANS.

WANTED

Diesel electric switching locomotive, twin engine, size 40 to 50 tons. Must be in good operating condition. W. F. Hall Printing Co., 4600 W. Diversey Ave., Chicago, Ill., phone Palisade 8000, Ext. 306.

POSITION WANTED

Manager of Railroad Sales or Assistant. Graduate Mechanical Engineer with over 15 years experience in Locomotive maintenance, testing and engineering. Past two years Asst. to Manager with company marketing to railroads throughout East, South and Mid-West. Box 768, Railway Age, 30 Church Street, New York 7, N. Y.

RAILROAD EQUIPMENT

78 ton Baldwin Type 0-6-0 Switcher — Side Tank
80 ton Baldwin Type 0-6-0 Switcher — Separate Tender
110 ton American Type 0-8-0 Switchers — Separate Tenders
181 ton American Type 2-8-2 Mikados with Boosters

25—50 ton all steel box cars. Capacity 3548 cu. ft.

Model 250 Brill Gas Electric all steel combination passenger, baggage and mail car new in 1928. Now being completely rebuilt.

Full detailed particulars with quotation on any of the above items will be gladly furnished.

THOMAS F. CAREY CO., Inc.
120 LIBERTY STREET
New York 6, New York

FREIGHT CARS

BOX
FLAT
DUMP
GONDOLA
HOPPER
TANK

Also Special Purpose Equipment
Your inquiries appreciated

IRON & STEEL PRODUCTS, INC.
40 years' experience
13486 S. BRAINARD AVE.,
CHICAGO 33, ILLINOIS
"ANYTHING containing IRON or STEEL"

Wanted—A Junior Editor

A man with technical training and some practical experience in the mechanical department of a steam railway, preferably both mechanical and electrical. Must demonstrate his ability to write English clearly and concisely. Editorial experience unnecessary. This job has a future for the right man. Address Box 668, Railway Age, 30 Church Street, New York 7, N. Y.

FOR SALE

Large Overhead Crane
(150 ton capacity) 30′ span
5 motor—3/60/440
cab controlled
2—25 ton auxiliary hoists
(write for complete specs.)
Iron & Steel Products, Inc.
13486 S. Brainard Ave.
Chicago 33, Illinois
"ANYTHING containing IRON or STEEL"

POSITION WANTED

Available, Superintendent Motive Power or Research or Mechanical Engineer, under 40, graduate Mech. Engineer, 18 years experience with Railroad mechanical department in Maintenance Supervision, Tests, and Engineering. Box 769, Railway Age, 30 Church Street, New York 7, N. Y.

NEW FIFTH EDITION
LAYING OUT FOR BOILER MAKERS AND PLATE FABRICATORS

Revised by
GEORGE M. DAVIS
Boiler Designer, New York Central

THIS well-known book, first published in 1907, which has been out of print several years, has been thoroughly revised and brought up to date. The locomotive boiler chapters have been greatly expanded. Important new chapters include one on Laying Out and Computing Boiler Patches, and one on Laying Out for Welded Construction. Much additional material has been added on plate fabrication but important chapters on sheet metal layout have been left in. The book has been entirely reset in easier reading type and all the new layout drawings are sharp and clear. Written in shop language and without resort to higher mathematics. Send for descriptive circular, or for a copy of the book as soon as ready on Ten Days' approval.

530 pages, 700 illus., 9 x 12, cloth $8.00

BOOK DEPARTMENT
SIMMONS-BOARDMAN PUBLISHING CORP.
30 CHURCH STREET, NEW YORK 7, N. Y.

SEALTITE HOOK BOLT

1 Fins prevent turning.
2 Fins seat without side pressure.
3 Drives easily.
4 Same size hole makes better installation.
5 Washer nut stops seepage and locks through nail hole.
6 Has reinforced hook.
7 Hook angle furnished to fit job.

Double Life
SEALTITE HOOK BOLTS

Because railroad trestles and bridges are constantly exposed to corrosive conditions we recommend the economy of ordering your hook bolts in the Sealtite Double-Life Hot-Dip galvanized finish sealing the bolt in zinc which retards all corrosion and saves expense of frequent replacement.

LEWIS BOLT & NUT CO.
504 Malcolm Ave. S. E., Minneapolis, Minn.

A *Greatly Improved* FASTENER

Okonite Submarine Cable offers railroads extra long service life. It gives protection against failure—protection that is an absolute necessity. For, whenever cable is laid below the surface there are practically prohibitive costs of locating trouble . . . hauling up cable . . . repairing or replacing . . . and relaying.

Benefit by Okonite experience in the design, manufacture and installation of submarine cables. Get in touch with Okonite engineers. The Okonite Company, Passaic, N. J.

OKONITE
4273 **insulated wires and cables**

AIR DUMP CARS

RAIL CARS
MINE CARS
AND
LOCOMOTIVES
AXLESS TRAINS
COMPLETE
HAULAGE SYSTEMS

DIFFERENTIAL STEEL CAR CO.
FINDLAY, OHIO

INCREASED PASSENGER COMFORT

Steam Couplers
A. R. A. STANDARD
Flexible Conduits
REPLACES RUBBER HOSE
Vapor Systems
THERMOSTATIC CONTROL
Air Conditioning Controls

WITH
VAPOR
ENGINEERED PRODUCTS

BE SURE IT'S GENUINE VAPOR ENGINEERED
VAPOR SYSTEM
GUARANTEED EFFICIENCY

VAPOR CAR HEATING CO. INC.
RAILWAY EXCHANGE, CHICAGO, ILL.

THOMAS TRUCK of *Keokuk*

Safety One Man
BARREL TRUCK

- Trucker never touches barrel
- Automatic loading and unloading
- Sliding two-in-one chime hook
- Safe—no backstrain
- Balanced—truck carries load
- Easy rolling—Hyatt bearings
- Lifetime use—welded steel

A Cinch for One Man

Safer, faster, easier way for one man to handle barrels, drums, kegs up to 1000 lbs. Chime hook engages rim and cast steel prongs slide under drum instant trucker pulls truck back. That's all there is to it! Rubber tired wheels.

Send for complete literature

THOMAS TRUCK & CASTER CO.
6345 MISSISSIPPI RIVER KEOKUK, IOWA

Index to Advertisers

November 3, 1945

A

Ajax-Consolidated Company ..... Back Cover
American Arch Company, Inc. 45
American Brake Shoe Company, Brake Shoe and Castings Division 4, 5
American Locomotive Company 46a, 46b
American Steel Foundries 23
Aro Equipment Corporation 28
Association of Manufacturers of Chilled Car Wheels 2
Auditor, Tonopah & Goldfield Railroad 60

B

Baldwin Locomotive Works, The 52, 53
Barco Manufacturing Co., Not Inc. 8
Bethlehem Steel 27
Blanchard Bro. and Lane 59
Buda Company 29
Byers Co., A. M. ..... Front Cover

C

Canadian Cardwell Co., Ltd. 34
Cardwell Westinghouse Co. 34
Carey Co., Inc., Thomas F. 60
Clark Tructractor Division of Clark Equipment Co. 57
Classified Advertisements 60

D

Davenport Locomotive Works, a Division of Davenport Besler Corporation 50
Differential Steel Car Company 61
Duryea Corporation, O. C. 15

E

Electro-Motive Division, General Motors Corporation 42

F

Franklin Railway Supply Company, Inc. 44

G

General Cable Corporation 6, 7
Get Together Department 60
Gunite Concrete and Construction Co. 58

H

Hall Printing Co., W. F. 60
Harbison-Walker Refractories Co. 45
Hunt-Spiller Mfg. Corporation 47
Hyman-Michaels Company 58

I

Inland Steel Co. 3
International Correspondence Schools 60
Iron and Steel Products, Inc. 60

K

Kidde & Company, Inc., Walter 10, 31
Koppers Company, Inc. 12, 13

L

Lewis Bolt & Nut Co. 61
Lima Locomotive Works, Incorporated 43

M

Magor Car Corporation 11
Mearl Corporation, The 54
Monroe Auto Equipment Co. 24

N

Nathan Manufacturing Co. 61b
National Malleable and Steel Castings Co. 14
National Steel Corporation 49

O

Ohio Locomotive Crane Company 58
Okonite Company, The 61
Oxweld Railroad Service Company, The 35

P

Pettibone Mulliken Corporation 32
Pittsburgh Steel Foundry Corporation 33
Pullman-Standard Car Manufacturing Company 16, 17

R

Railway Educational Bureau, The 60
Railway Maintenance Corp. 25
Ramapo Ajax Division, American Brake Shoe Company 9
Ready-Power Co., The 48
Republic Steel Corporation 51
Ryerson & Son, Inc., Joseph T. 61a

S

Schaefer Equipment Company 18
Simmons-Boardman Publishing Corp. 58, 60
Sonken-Galamba Corp. 60
Standard Forgings Corp. 36
Superheater Company, The 46

T

Thomas Truck & Caster Co. 61
Timken Roller Bearing Company, The 26
Truscon Steel Company, A Subsidiary of Republic Steel Corporation 51

U

Union Carbide and Carbon Corporation 35
Union Switch & Signal Company 40
U. S.-Challenge Company 59

V

Vapor Car Heating Co., Inc. 61
Viloco Railway Equipment Company 57

W

Weirton Steel Co., Division of National Steel Corporation 49
Western Electric Company 30
Westinghouse Air Brake Company 38
Westinghouse Electric Corporation 37
Wheel Truing Brake Shoe Company 58

Y

Yale & Towne Manufacturing Co., The 56
Youngstown Miller Company, The, A Subsidiary of Walter Kidde & Company, Inc. 31
Youngstown Sheet and Tube Company, The 55

STEEL *in stock at* **RYERSON**

• Ryerson has the steel you need ready for immediate shipment. Ten convenient Ryerson plants stock more than ten thousand kinds, shapes and sizes of steel and allied products. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City

Principal Products Include:

Structurals	Strip	Stainless	Babbitt, Solder
Stay Bolt Iron	Alloys	Mechanical Tubing	Reinforcing
Plates	Cold Finished Steel	Boiler Tubes	Nails, Rivets, etc.
Sheets	Tool Steel	Welding Rod	Machinery

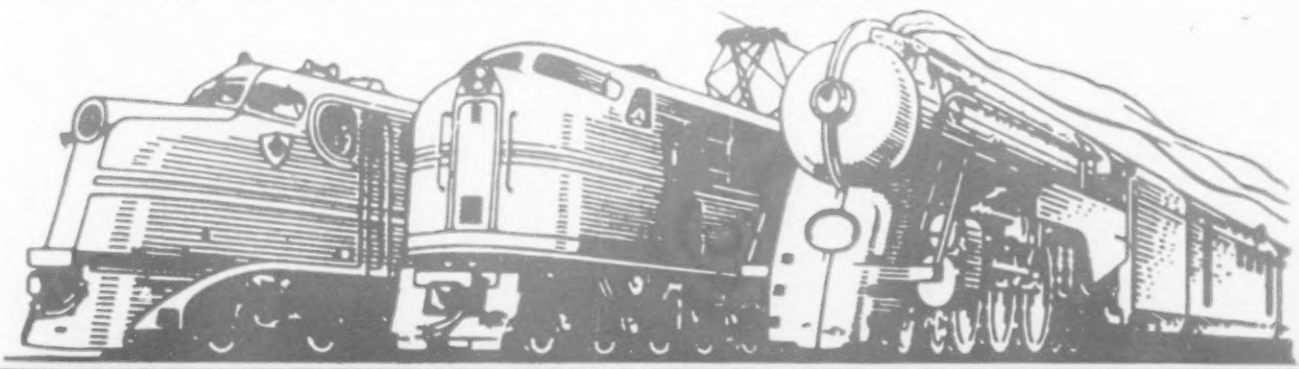
Sure...

LOCOMOTIVES ARE DIFFERENT

THE bullfrog can go all winter without food and live a long time — but locomotives would not last very long in service without the continuous feeding of lubricating oil. The easiest and most dependable method of lubricating locomotives is with Nathan Mechanical Lubricators and Nathan Distributors. And the more points that are lubricated the better the performance and the longer the life of locomotives.

The trend in modern locomotive design is to complete chassis lubrication. Many locomotives have over 200 points lubricated from centrally located mechanical lubricators. There is practically no limit to the number of parts that may be correctly lubricated by installation of a simple and compact Nathan Mechanical Lubrication system.

When it comes to locomotive lubrication, consult specialists. Nathan's 80 years of service to the railroads is your assurance of closest cooperation and most satisfactory results.



NATHAN MANUFACTURING CO., 250 PARK AVE. NEW YORK 17, N. Y.

Established 1864

"Certified" A.A.R.

AJAX

Hand Brake

A Symbol of Leadership

Over one-half Million AJAX Hand Brakes have been delivered

More than 550,000 railroad freight cars and thousands of locomotives are equipped with AJAX Hand Brakes.

For long life and low maintenance cost, AJAX heat treats all pinions, pawls and chains—important parts of a power brake.

For safety . . . AJAX also Magnaflux and Rockwell test all pinions and pawls and proof-test all chains.

For dependability . . . AJAX machines all working parts in a factory devoted exclusively to brake manufacture.

These exclusive features obtained only in AJAX Brakes, assure *safety for brakemen—equipment and lading.*

Specify AJAX Hand Brakes for all freight equipment.

Always Dependable

AJAX-CONSOLIDATED COMPANY

CHICAGO 50, ILLINOIS